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A N
EXPERIMENTAL HISTORY
OF THE
MATERIA MEDICA,
OR OF THE
Natural and Artificial SUBSTANCES
MADE USE OF IN
M E D I C I N E :

CONTAINING
A Compendious View of their NATURAL HISTORY,
An Account of their PHARMACEUTIC PROPERTIES,
And an Estimate of their MEDICINAL POWERS, so far as they can be
ascertained by Experience, or by rational Induction
from their sensible Qualities.

By WILLIAM LEWIS, M.B. F.R.S.

*Rationalem quidem puto Medicinam esse debere :
instrui vero ab evidentibus.* CELSUS.

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P R E F A C E.

THE medicinal materials, in the infancy of physick necessarily few, were by degrees exuberantly multiplied; and new ones are still, from time to time, discovered and introduced. Their estimation and use have been variable; substances at one time in high esteem being often at another disregarded, and those which in one age had fallen into neglect being often in another revived; a fluctuation apparently owing, in many articles, to the fancy or caprice which influences other human things, and in many to ignorance or error. The design of the present work is, to examine the several substances which are or have been in repute; with a view to ascertain, as far as possible, their real powers, and to establish this important part of medicine on a just foundation. It will, perhaps, appear from this examination, that there are some materials of little significance among those which are retained in practice, and many of more utility among those which are overlooked.

The materia medica is commonly understood to comprehend, not only the materials afforded by nature, but many of those also which are prepared, produced, or compounded by art; as minium, potash, and soap. In pharmacopæias, intended as directories for the preparation of such medicines only as are made in the shops, all those artificial medicinal substances are referred to the materia medica, which are either brought from abroad, or commonly prepared by particular persons, as articles of commerce. A scientific distinction may, however, be fixed, independently of commercial considerations. Productions essentially different, in their medical and other properties, from the subject from which they were produced, and which had nothing analo-

gous to them præexisting in the subject; as the fixt alkaline salts of vegetables, and the volatile salts of animals; --- compounds resulting from the coalition of opposite ingredients; of ingredients which in mixture lose their specific powers, and form together a substance of new qualities; as neutral salts and soap; --- the constituent parts of natural compounds of this kind, separated and purified by art; as magnesia and the mineral acid spirits; --- may be considered as distinct medicinal materials, or as articles of the materia medica, wheresoever they are prepared.

It were to be wished, that the several subjects could be methodically arranged, from some qualities subservient to medicinal intentions. This has been attempted by different writers, on different plans, but in my opinion with little success: nor indeed does it seem to be practicable; the qualities of medicines being too intricate, and compounded, and multifariously diversified, to serve for the basis of any useful distribution of them. The division into minerals, animals, and vegetables, and the subdivisions into roots, barks, leaves, flowers, &c. are equally exceptionable; some substances not being clearly reducible to either of the three kingdoms, and different parts of one vegetable being commonly made use of. I know of no practicable method that promises any advantage above the alphabetic one; and what convenience there is in this regards rather the author than the reader.

Each article may be considered in three points of view; as an object of natural, medicinal, and pharmaceutic history.

The office of natural history, so far as it relates to the materia medica, consists, in distinguishing the several substances from one another by criteria drawn from their external form and structure, and in ascertaining their origin and production.

The criteria of natural history are peculiarly adapted to vegetables and animals in their entire and perfect state; the form, structure, and disposition of the several parts, collectively considered, affording here generally sufficient means, and indeed the only means, of distinguishing each particular species from all others. In this branch of knowledge, of late years so diligently cultivated

cultivated and so remarkably improved as a general science, little new matter can be expected in a work of the present kind. If, of the accounts given in detail by those who have written professedly on these subjects, the more interesting and useful particulars, relative to the medicinal articles, are perspicuously and concisely expressed; if the more obvious and invariable discriminative appearances are justly selected from the writings of others or assigned from my own observation, so as to render the descriptions strictly definitive or characteristic, without regard to the systems of naturalists; I have in this point accomplished my intentions.

Of the distinct parts and productions of vegetables and animals, there are many, which cannot be sufficiently discriminated by any external marks, and which require the assistance of characters drawn from pharmacy or pharmaceutic chemistry, that is, from their intrinsic properties. The criteria of natural history, strictly so called, are still more insufficient, and those of chemistry of consequence more necessary, in regard to the products of the mineral kingdom; where, oftentimes, one and the same matter assumes different forms, and different kinds of matter the same form. In assigning the criteria drawn from this source, I have endeavoured to determine by experiment those properties, which, at the same time that they are obvious and easily examined, may be fully characteristic of the subject in all its forms.

The medicinal history, or the knowledge of the powers and effects of medicines in the human body, though apparently a most essential branch of the healing art, has been far more incuriously cultivated, and still, perhaps, continues less cleared from the errors of former ages, than any other science. Even in these later times; after the arbitrary qualities of cold, hot, dry, and moist, and the ridiculous similitudes and conceits which some enthusiasts of the last century relied on as a test of medicinal activity, had been exploded: the advancement of true medicinal history has met with many obstructions; partly from the officiousness of compilers in collecting and preserving the fictitious virtues; partly from a fondness, in original writers, of aggrandizing their favourite medicines; partly from a fallacy, in ascribing to a particular ingredient in a composition the effects which more powerful ones had produced, a fallacy which the exuberance of mixture made sometimes
unavoidable

unavoidable; partly from the difficulty of distinguishing, in many cases, the real effects of medicines from the operations of nature unassisted; partly from a practice, too common among writers on the *materia medica*, of barely enumerating the diseases, or even the parts of the body in whose general diseases, a medicine had, or was supposed to have, done good, as if diseases of the same parts, or of the same name, were always of the same nature, or were always to be treated by the same remedies. Medicinal history has perhaps suffered also from the misapplication of other sciences.

After botany had been regularly cultivated, and methodized into systems; it was observed that several of the plants, which had been ranged together from their agreement or affinity in botanic characters, agreed or were allied also in medicinal virtue. As nature appeared to have in some instances established a connection of this kind, it was fondly presumed that she had done so in all; that, the virtues of some particular plants being known, those of all the others, ranked in the same botanic class, might also be inferred; and accordingly rules have been drawn up, for judging of the virtues of plants upon this principle, by botanists of the greatest name. But so far is a similarity of virtue from obtaining through the several genera which constitute one class of vegetables, that frequently it does not obtain through the several species of one genus: there are solanums, lettuces, herb-mercuries, cucumbers, mushrooms, &c. esculent and deleterious; and even the same individual often varies, from culture or other circumstances, as much as two plants which have no botanic affinity.

The chemists, in like manner, extending the discoveries of their useful art beyond the proper limits, endeavoured to investigate the virtues of plants from the substances into which they are resolvable by fire; and in this view, the French academicians analysed almost all those made use of in medicine. From their experiments it appears, that the substances thus obtained have no resemblance in quality to the original vegetable, and can afford no foundation for judging of its virtues; that plants the most remote in virtue, purgative and astringent, poisonous and esculent, are changed by force of fire into similar principles. It is matter of concern, that these analyses should

have been preserved in the posthumous works of a writer so judicious as Mr. Geoffroy, while the editor was sensible that the author himself, in his later years, disapproved of them.

There are, nevertheless, in most vegetables, certain sensible qualities, either obvious or easily discoverable; which afford, under due restrictions, an excellent test of their virtues; and in which indeed, oftentimes, their virtues wholly consist. Aromatics, acrids, fetids, astringents, bitters, sweets, acids, unctuous and mucilaginous substances, which comprehend the greater number of the articles of the vegetable kingdom, operate generally by such qualities as are the immediate objects of smell and taste; and from the degree of force with which they affect those senses, their degree of medicinal efficacy may be generally inferred. The smells and tastes of the several materials, on which some have already laid considerable stress, but which for the most part have been either wholly neglected, or regarded only as they affect the medicine in point of elegance, I have examined with no little care: and though it is not to be supposed, that the particular degree of each can be precisely determined; or its particular species, at least in regard to smell, fully expressed in words, any otherwise than by comparison with substances more known; or that any exact limits can be always fixed, as between fetid and aromatic, grateful and ungrateful; I nevertheless flatter myself, that the observations of this kind will furnish, in many instances, sufficient data to the physician for judging what may be expected from materials he has not experienced. In this part, as in the descriptive history, great assistance has been drawn from pharmaceutical chemistry: for, in many vegetables, the active matter is so far divided and diluted by the herbaceous inert substance; and in others, different kinds of active matter are so blended together; that they cannot be discovered, or distinguished, till they are extracted, or separated from one another, by the operations of chemistry.

Some other experiments are, in particular cases, very useful auxiliaries in this enquiry. Thus, a solution of vitriol of iron, made in water, is by many vegetables turned to a black colour; by others, a solution of sulphur, made in alkaline liquors, is rendered milky or turbid, and of a strong fetid
smell.

smell. It is not known, that any vegetable substance produces the first of these effects but those which have an astringent power ; or that any produces the second but those partaking of an acid, which unites with and neutralizes the alkaline matter in the liquor, and disengages the sulphur which was thereby kept dissolved. By these criteria, lower degrees of astringency and acidity are often discovered, than the taste gives any notice of.

The effects of medicines on the fluid and solid parts of dead animals ; as their producing or resolving coagulations, relaxing or contracting the fibres, promoting or retarding putrefaction, or varying the degree and the species as well as the facility of the resolution ; afford likewise, in some cases, considerable light into their medicinal operation. Of these cases, however, the number appears to be much smaller than seems to have been imagined by the generality of those who have prosecuted these enquiries ; who have not, perhaps, sufficiently considered, how different is the operation of medicines on animal substances in a vital and in an inanimate state ; and how much the fluids of an animal are influenced by the action of medicines on the solid parts : it is probable, that the operation of most medicines is immediately or principally upon the solids, and that the fluids are in most cases only consequentially affected. The fluids most likely to answer any useful purpose, in these sorts of trials, are those which are secreted into the alimentary canal : experiments on blood seem to be of no medical utility, even where the substance made trial of is of that kind, which is least subduable by the powers of digestion, and consequently most likely to pass unchanged into the blood : green vitriol, mixed with the blood drawn from a vein, instead of rendering it more florid, the common medical effect of this chalybeate preparation, changes it grey : mercurials, examined in the same manner, discover nothing of that remarkable colliquation, which they produce in the blood of living animals.

There are substances, in which all the foregoing means of investigation fail ; and which operate by some latent power, of which they give little or no intimation to the senses. Of this kind are most of the purgative, emetic, and narcotic plants ; those, which from their deleterious effects when taken in certain quantities, are called poisonous ; and most of the metallic bodies
and

and their preparations. Experiments on brutes are here of use, but of limited use: for if prudence requires us to refrain from substances which are noxious to brutes, it does not always authorize us to venture on such as may to them be innocent: Experience shews, that the crocus of antimony, of which a grain or two operate in the human body as a virulent cathartic or emetic, may be given to horses in the quantity of an ounce without producing any very remarkable effect: that a moderate dose of jalap throws a dog into convulsions, who could well bear a much greater quantity of opium than could be given with any safety to a man. The virtues of these kinds of substances can be known only from their effects in the human body itself: and as, of all medicines, they have the most obvious and apparent effects; they are, happily, of all medicines, those which admit of the least deception, and in which, of consequence, we can most avail ourselves of the observations of former writers. Indeed many of them being now received in general practice, their powers have been determined by general experience.

With such assistances as I could draw from these sources or from my own experience, I have endeavoured to point out chiefly the primary effects of the several subjects, or the immediate sensible operation which constitutes their true medical character. I judged it useless to enter into an enumeration of diseases in which a medicine is or is not proper, when the salutary or pernicious effects, which it produces in those diseases, are no other than obvious consequences of its general power: it nevertheless appeared frequently necessary to specify some particular cases, as being either illustrative of the general power, or subservient to its discovery, or where it could not be precisely ascertained.

The pharmaceutic history of simples, closely allied to the medicinal, regards, chiefly, the variations of their qualities in different states and forms naturally or artificially induced; the separability or non-separability of their active principles by different menstrua or different operations; and their miscibility or non-miscibility one with another. In these properties, remarkable diversities and contrarieties are observed among the different medicinal simples, even among those in which no material disagreement has been generally suspected. Thus, the virtue of some vegetables accompanies the fluid which they yield on being pressed, while that of others remains behind

locked up and concentrated in the subject, and that of others is destroyed in the operation: some plants, in being dried, lose all their virtue, some have their virtue improved, and some have it changed to another kind: some, by infusion, give out their virtue both to water and to spirit of wine, some to water only, some to spirit only, and some neither to one nor the other. Nor can these diversities be reduced to any general rules, or any otherwise determined than by a separate examination of each particular article.

This province belongs peculiarly to chemistry; but notwithstanding its obvious importance to the practice of medicine, even the medical chemists have been very remiss in the cultivation of it. I know only of two persons, whose labours have been considerable, and whose success can be applauded. Neumann, one of the first who, rejecting the useless analyses of vegetables made by vehemence of fire, endeavoured to separate their component parts, unaltered, by means of menstrua; examined by this method a considerable number of the officinal drugs, not indeed directly in a medicinal view, but in the way of a general chemical enquiry into the products of nature. Cartheuser, confining himself more closely to medicinal considerations, followed nearly Neumann's plan so far as it included these, and made sundry valuable additions.

In the present work, the enquiry is extended to a far greater number of simples, and conducted likewise on somewhat different principles. The quantity of matter, which water or spirit extract from a plant, or which either menstruum extracts after the action of the other, is, medically, of little importance to be known; unless it be known also, what are the precise qualities of the several preparations, whether the virtue of the plant resides in the part extracted by one or the other menstruum, or whether, in this separation of the parts of the subject, any active matter is discovered which was not perceptible before. And on the other hand, though the qualities of the infusions, extracts, &c. be very carefully and minutely examined; yet if they are described independently of one another, and if no account is taken of the remaining substance of the plant, or of the vapour that exhales in the inspissation of the spirituous tincture; it will be impossible, in many cases, to judge between the dissolving powers of water and spirit, or whether either is a complete menstruum for the active parts, or whether the spirituous extract retains the full virtue of the subject, or whether a part of the
virtue

virtue exhales or distils with the spirit. Without embarrassing the reader with a minute history of experiments, I have given only their result, or the general pharmaceutic habitude of the subject deduced from them: it is in trying to make these general deductions from the experiments hitherto published, that their insufficiency, in regard to the greater number of the articles, is most conspicuous. I have nevertheless been obliged, in some cases, by the multiplicity of the labour, and the difficulty of procuring specimens of some few articles, to be satisfied with such information as those experiments afford.

To prevent the necessity of frequent repetitions under the particular subjects, some observations of a general nature are here premised.

1. Of the collection and curation of Simples.

Vegetables should be gathered chiefly from those soils, in which they naturally delight, or in which they are found most commonly to rise spontaneously; for, though many of them may be raised, and made to grow with vigour, in very different ones, their virtue generally suffers by the change. A variation of seasons occasions also differences considerable enough to require, oftentimes, an allowance to be made in the quantity; plants in general proving weaker, though more luxuriant, in rainy than in dry ones.--- Herbs and flowers are to be gathered in a clear dry day, after the morning dew is gone off from them. Leaves for the most part, are in their greatest perfection, when come to their full growth, just before the flowers appear: flowers, when moderately expanded: seeds, when they begin to grow dry, before they fall spontaneously: woods and barks, as is supposed, in the winter: annual roots, before the stalks begin to rise: biennial roots, in the autumn of the first year, or in the following spring: perennial roots, before they begin to shoot. Though the perennial, as well as biennial roots, have been commonly directed to be dug up in autumn, when the leaves wither; they are both, generally, found to be most vigorous when the return of spring has renewed their vegetative power. To most of these rules there are some exceptions, which are specified under the particular subjects.

Of the vegetables which lose their virtue in being dried, the greater number, perhaps all, may be preserved for a considerable length of time, by impeding the exhalation of their native moisture; for so long as they retain this, they seem to retain also their medical activity. Thus roots have their virtue preserved by being buried in sand, which should be dry, that they may not vegetate; leaves and flowers, of a more corruptible nature than roots, by being beaten with about thrice their weight of fine sugar to prevent their corruption, and kept in a close vessel.

Plants which bear drying are commonly hung in a warm airy place, defended from the sun. The colours of herbs and flowers are for the most part changed or destroyed, in drying, by the sun's beams; but that their medicinal virtue suffers a like diminution, does not appear. Thus much is certain, that a heat of culinary fire, equal to that of the sun in summer, does them no injury in either respect: and that both flowers and leaves, when thus hastily dried by fire, preserve the liveliness of their colour, and their smell and taste, more perfectly than by slow exsiccation. The leaves of moderately juicy plants are reduced, by drying, to about one fourth of their original weight.

Some roots, and some other parts of vegetables, how thoroughly soever they have been dried, are liable, in keeping, to grow mouldy and carious. This inconvenience might probably be obviated by dipping them, when dried, in boiling spirit of wine, or exposing them to its vapour in a close vessel. It is said, that some of the oriental spices are made less perishable, by being dipt in a mixture of lime and water.

The pulps of fruits are separated from the seeds and membranous parts, by forcing them through a strong hair sieve. If the fruit is unripe and hard, or if it is dry, it should be previously softened by boiling in a little water; and the pulp, after passing through the sieve, is to be inspissated over a gentle fire, with care to prevent its burning.

The concrete gummy-resinous juices brought from abroad, which have usually a considerable mixture of bits of stalks, leaves, seeds, &c. are purified, by adding so much boiling water, as will so far soften or dissolve them, that they may be pressed, whilst hot, through a strainer; and then inspissating the strained liquid, in a gentle heat, to the original consistence of the gummy-resin: if the quantity of water is considerable, the resinous part commonly separates

separates and subsides, and in this case is to be kept by itself till towards the end of the inspissation of the gummy, at which time they may be easily united again together into an uniform mass. Some of the gummy-resins, exposed to the heat of boiling water, melt thin enough, without any addition, to be pressed through a canvas strainer. In either process, the operator must be careful to prevent, as much as possible, the dissipation of the more volatile parts; an injury which cannot be wholly avoided, especially when the subjects are dissolved by water. The finer tears unpurified are in many cases preferable, for internal use, to those that have been strained.

Pulverable bodies of an earthy texture, or such as are brittle and not dissoluble in water, after being reduced to a powder of moderate fineness, are brought to an impalpable or very subtile state, by grinding them with a little water on some hard smooth instrument: the matter is commodiously dried on a chalk-stone, or rather on a cake of plaister-of-Paris, which equally absorbs the moisture, without adhering to the powder like substances of the chalky kind. Powders thus levigated are still found to contain a quantity of gross parts; which may be separated by shaking the matter with water, till it is diffused through the fluid, and then suffering it to settle: the grosser parts soon subside; and the turbid liquor, being now poured off, deposits more slowly the finer powder. By this process, powders may be obtained of any degree of fineness; the tenuity being in proportion to the length of time that they remain suspended in the fluid. On the same principle, the solar earths may be separated from the gritty matter naturally mixed with them, metallic bodies from those of the earthy kind, and the calces of metals from metallic particles uncalcined.

Salts are purified from indissoluble admixtures, by solution in water and filtration through paper. Water dissolves, in a boiling heat, a much larger quantity of most kinds of salts than it can retain when cold: thus, of nitre, it dissolves when boiling near three times its own weight, but in cooling a part of the salt gradually separates, till at length, when grown thoroughly cold, in frosty weather, it does not retain one eighth its own weight, or one twenty-fourth of the quantity of salt at first dissolved. The neutral salts, or those composed of an acid and an alkali; several of those which consist of an acid and an earthy or metallic body; and many of the acid salts of vegetables;

tables; in this separation from their solutions, concrete, unless too hastily forced together by sudden cooling, or disturbed by agitation or other causes, into transparent masses, of regular figures peculiar to each particular kind of salt, and thence called crystals — There are two general methods of recovering salts from their solutions in a crystalline form; one adapted to some salts, and the other to others. The one is, by keeping the solution in a gentle and equable warmth, that the water may gradually exhale, and leave the salt crystallized. The other is, by boiling down the solution, till, on dropping a little of it on a cold glass plate, crystalline filaments appear; then covering the vessel, and suffering it to cool very slowly: some of the difficultly crystallizable salts are made to shoot more freely, by adding, after sufficient evaporation, a small proportion of rectified spirit of wine, which weakens the dissolving power of water on most kinds of saline bodies — As different salts require different quantities of water to keep them suspended; when two or more are dissolved together, they begin to concrete at different periods of the evaporation, that, which requires most water for its dissolution, shooting first, and leaving the more soluble dissolved: on this foundation, salts are purified, by crystallization, from admixtures of one another.

2. General pharmaceutic analysis of vegetables by incision and pressure.

The medicinal juices of vegetables commonly reside in distinct vessels; and often exude upon the surface, from a spontaneous rupture, or artificial incisions of them. The juices of herbs and trees issue chiefly during the summer heats; as the gum of the cherry-tree, the resin of the fir, the sweet juice of the manna ash, and the unctuous exudations on the leaves of many plants; though some trees, as the birch and maple, yield early in the spring, on being bored or deeply wounded, a very copious sweetish watery juice, of which, in summer, they yield little or nothing, the watery menstruum being now perhaps consumed. Some roots bleed gummy-resinous juices in the spring, as bryony and angelica among us; others in summer, as the asafetida roots in Persia, and the scammony in Syria. Some fruits, particularly the several varieties of lemons, citrons, and oranges, have numerous vesicles, in their outer rind, filled with a fragrant oil; great part of which may be extracted,
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by rolling the fruit on a plane stuck full of sharp points, which lay open the oily vesicles, or by rubbing it on a mass of sugar, which imbibes the oil.

From succulent herbs and fruits, the different fluid juices they contain are forced out, mixed, by bruising and pressing them. Vegetables of the sweet or saline kind, as the summer fruits and the acid herbs; several of the acrid plants, as arum and scurvygrass; and those of the lactescent kind, as dandelion and the sparges; generally give out by this process great part of their active matter along with the watery fluid: but the juices expressed from aromatic herbs, as mint, have, for the most part, little or nothing of the peculiar smell, taste, or virtue, of the subject; and many of the fragrant flowers, as lilies and violets, have their fragrance destroyed by the pressure. The juices of plants, thick, turbid, and very impure when newly expressed, by settling and repeated straining become clear: many, in this depuration, lose nothing considerable of their virtue: from others, the medicinal parts, not dissoluble in watery fluids, separate and subside along with the feculent matter. To the depurated juices, designed for keeping, a small proportion of rectified spirit of wine may be added, which, on standing for some time, generally throws down a fresh sediment: the liquor is then to be put in small bottles that have been washed with spirit and dried, a little sweet oil poured on the surface so as nearly to fill the bottles, and the mouths slightly stoppt: by this method, most of the juices that bear depuration may be preserved, in a cool cellar, for a year or two; excepting perhaps only the very fermentable sweet ones, which can scarcely be long restrained from fermentation without boiling. Those which are not injured in their virtue by evaporation, may be inspissated to the consistence of a syrup, or of a thick or solid extract: from those of the saline kind, duly depurated and inspissated, the saline part commonly separates, on long keeping, in a crystalline form.

The kernels of fruits, the seeds that on being triturated with water form an emulsion or milky liquor, and some other vegetable substances, yield, on being strongly pressed, an oil; which, of itself, is flavourless and insipid; but which, in some cases, is impregnated with the smell and taste of the subject. The aromatic seeds and kernels, as anniseeds and nutmegs, and some of the purgative ones, as the ricini, are the principal substances that give out with their oils their peculiar virtues, the oils of most of the others having no particular impregnation. There are, however, considerable differences among

the unflavoured and insipid oils ; in their consistence ; in their disposition to congeal by cold ; in their disposition to grow rancid by heat ; in the degree of heat necessary to make them boil ; in their power of dissolving certain bodies ; and in their combinability with fixt alkalies into soap. The extraction of the oil from the subject is greatly facilitated by heat ; and hence the preparers of these oils for mechanic purposes generally warm to a considerable degree either the subject itself, or the iron plates of the press, or both. Where the product is intended for medicinal use, this practice is generally condemned ; heat being apt to impress upon the oil an ungrateful flavour, and increase its disposition to become rancid. Nevertheless, though a great heat has undoubtedly these effects, yet a gentle warmth is in some cases necessary, and not, perhaps, very injurious in any : in winter at least, both the subject and the apparatus may be warmed, with safety, to the greatest degree of heat that obtains in the shade in summer. The heat is never to be continued longer than the expression requires ; and the oil, as soon as drawn, is to be set in a cold place.

3. General pharmaceutic analysis of vegetable and animal substances by menstrua.

Water, the proper menstruum of gums, of gellies, and of salts, extracts the gummy and saline parts of vegetables, and the gelatinous matter of animals. By the mediation of these principles, it dissolves others of more activity, oils and resins being made miscible with water by the mediation of gums. All the substances which water extracts from vegetables or animals, it dissolves almost unlimitedly, so as, by repeated infusion on fresh parcels of the subjects, to become more and more impregnated with their active parts, till so far loaded as to have its further action impeded by the diminution of its fluidity : it generally takes up first the lighter and more grateful matter, and afterwards the grosser and more disagreeable ; and hence, by skilful management, it may be richly impregnated with the former, without much admixture of the latter. The subject should be moderately dried (unless it be of such a kind as to lose its virtue in drying) as in this state it communicates a remarkably stronger impregnation than an equivalent quantity when fresh. Most leaves and flowers yield great share of their more active matter by cold maceration,

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or more readily by warm infusion: by boiling, the dissolving power of the water is for the most part greatly increased, and the volatile parts, if the subject contained any, are dissipated with its steam.

The vapour which exhales in the boiling of odorous substances, and many of the pungent vegetables, in water, collected and cooled in proper vessels, forms a liquor impregnated with their smell and pungency. This impregnation depends on a subtile principle, whose matrix is a volatile oil; of which oil a part often separates in its own form, either floating on the surface or sinking to the bottom according to its gravity; and which, from the specific flavour of the subject being concentrated in it, is distinguished by the name of essential. As this subtile oily matter is here separated from the more fixt gummy parts that rendered it before almost unlimitedly dissoluble, the water now can retain only a certain proportion of it, and generally but a small one: if the distilled water, once saturated so that a part of the oil appears distinct, be redistilled from repeated fresh quantities of the subject, the aqueous fluid receives no further impregnation, and the quantity of oil that separates proves proportionably larger than if fresh water had been used. These oils differ from the expressed ones formerly mentioned, in being dissoluble in spirit of wine, and volatile in the heat of boiling water; on either of which foundations, when expressed oils are mixed with essential ones, whether artificially, or in their expression from subjects that contain both, the two oils may be completely separated from one another. The sophistications of the dearer essential oils, commonly practised, by the admixture of cheaper ones, can be distinguished only by the smell and taste: the smell and taste which they communicate to liquors in certain known quantities, when dissolved in spirit, or, by means of sugar or mucilages, in water, is an useful criterion also of the degree of goodness of the oils when genuine; for the same kinds of vegetables, produced in different soils and seasons, vary not only in regard to the quantity of water they are capable of impregnating by distillation, and in the quantity of oil they afford, but likewise in the strength of the oil itself.

There are some substances whose virtues reside wholly in an essential oil and are wholly dissipated in boiling: there are others, which have one virtue residing in an essential oil, and another which remains behind in the decoction, which last may be brought to a concentrated state by evaporating the watery menstruum with a gentle heat till the matter becomes thick or solid: there are others, which contain no oil, and whose virtue remains entire in the

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inspissated

inspissated extract, provided it has been skilfully prepared. A difference in the quantity of water will in many cases occasion a sensible variation in the qualities of the extract, by requiring more or less heat for its evaporation; for, independently of the dissipation of the volatile parts, even those of the more fixt kind suffer a considerable change from continued heat: by long boiling with water, sweet substances become nauseous, and the drastic purgatives lose their virulence, without any remarkable separation of their parts. Some have endeavoured to avail themselves of this observation, for converting the stronger cathartics and emetics, asarum, tobacco, and others, into medicines of safety and utility; and report, that extracts made from these plants, by long boiling with a large quantity of water, were found to act as mild aperients or deobstruents: these kinds of preparations, however, must necessarily be too precarious in strength to be received in general practice; the abatement of the virulence of the medicine depending on what no care can adjust to one standard, the degree and continuance of the heat.

Pure spirit of wine, the appropriated dissolvent of resins and essential oils, and which dissolves also certain saline bodies, as the sweet saccharine salts of vegetables; extracts, for the most part, such virtues of vegetable and animal substances, as reside in those principles, or in principles analogous to them. Of the substances, whose virtues reside apparently in these principles, there are many, which give a strong impregnation to water as well as spirit, but few that impart their virtues in an equal degree to the two menstrua: from a compound of pure gum and resin, water, by infusion, extracts directly the gummy matter, and by the intervention of this a part of the more active resin, leaving great part of the resin undissolved; whereas, contrariwise, pure spirit extracts directly the resin, and leaves undissolved greatest part of the inert gum, of which it does not appear to take up so much as water does of the resin. Hence, in the analyses of these kinds of subjects, it is generally observed, that spirit loads itself with their active parts much more than water is capable of doing: that the extracts made with spirit are much smaller in quantity, and proportionably stronger, than the watery extracts: and that the spirituous tinctures, loaded with the resinous parts, grow turbid on the admixture of water and deposite their pure resin; the gummy matter, that the spirit had taken up, remaining dissolved in the aqueous fluid, and being insufficient in quantity to keep any considerable portion of the resin suspended. Hence saturated resinous tinctures, those especially of the cathartic kind, require, in being diluted for exhibition, an
admixture

admixture of gummy or saccharine matter, to keep the resin divided and to prevent its separation: on this foundation may be prepared, from these kinds of tinctures, elegant gummy-resinous extracts; by mixing with them, when inspissated to the consistence of a balsam, a thick solution of any simple gum or mucilage, and continuing the evaporation, with a gentle heat, till the matter becomes dry. In like manner, the resinous and gummy parts of one subject, or those parts which pure spirit extracts, and which water extracts after spirit, may in some cases be advantageously united into one mass; by separately inspissating the tincture and decoction to a certain thickness, and then mixing them together.

Pure spirit, which exhales or distils with a much less heat than water, carries off with it, for the most part, much less of the essential oils of vegetables. There are many substances, whose active parts are almost wholly dissipated in the preparation of the watery extract, and almost wholly retained in the spirituous. There are some, however, whose oils are so volatile, as to rise with pure spirit as perfectly as with water; and in this case, the distilled spirit proves sometimes stronger than the distilled water; spirit keeping dissolved all the oil that rises with it; whereas, when water is used, a part of the oil frequently separates.

Wines, as being compounds of water and inflammable spirit, take up such parts of vegetables and animals as are soluble in those liquors; but their dissolving power is somewhat weaker than that of purer mixtures of water and spirit, on account partly of their viscous unctuous matter, and partly of their acid. Wines are impregnated with the active parts of medicines, chiefly by maceration in the cold, or with a very gentle warmth; the heat, which is often advantageously applied for expediting or promoting the action of water and spirit, occasioning in wines a disagreeable alteration. Malt liquors are commonly medicated, by macerating the ingredients in them during the fermentation, or boiling or infusing them in the wort.

Acids, both vegetable and mineral, somewhat weaken the dissolving power both of water and spirit on bodies of the resinous and oily kind; and when added to infusions or tinctures, generally precipitate a part of what the menstruum had before taken up: nevertheless, when acids are intimately combined with vinous spirits into what is called a dulcified liquor, the compound proves a more efficacious menstruum, for some bodies, than the pure vinous spirit. --- Fixt alkalies generally increase the action of water on resinous and oily bodies, and weaken or restrain its action on gummy ones,

rendering water incapable of holding pure gums dissolved: they have been supposed to promote the action of spirit on difficultly soluble resinous bodies, but though the alkali deepens the colour of the tincture, the quantity extracted is found to be the same without as with it. --- Volatile alkalies precipitate gums from water, like the fixt, but in other cases their effects are more variable.

Expressed oils extract the odoriferous, resinous, and oily parts of vegetables; and with these they are sometimes impregnated, both for the purposes of perfumes, and for external medicinal uses. The more fragrant flowers give out their odour by cold maceration. The more fixt resinous parts of the leaves of plants are extracted, by boiling them in the oil till their watery moisture has exhaled, that is, till they are almost crisp, and the oil appears tinged of a green colour. Animal fats, liquefied and boiled with recent herbs, become in like manner impregnated with their resinous parts, and with the green colour residing therein. It does not appear, that the oils or fats receive, by this management, any valuable virtues: the heat, requisite for making them boil, impresses an ungrateful scent, and dissipates the more volatile parts of the subject: they may be impregnated more elegantly with the active parts of vegetables, by an admixture of essential oils or of spirituous extracts. The spirituous tinctures of the leaves of most plants are of a deep green colour; and the inspissated extracts, though often brown or black in their solid or consistent state, give generally a like greenness to fresh spirit, to essential oils, expressed oils and fats.

Air, or its watery moisture, seems to act as a true dissolvent, in the same manner, though not so expeditiously, as water in its grosser form. The astringent virtue of the walnut tree, and the purgative of the damask rose, have been observed to be diffused through the air; though they are obviously not of the volatile but of the fixt kind, not exhalable by heat but dissoluble by menstrua. Hence the atmosphere may become impregnated with all those virtues of vegetables, which at least watery menstrua can extract: and hence many medicinal substances are gradually robbed by it of their virtues; powders the most speedily, as exposing the largest surface to its action.

3. General chemical analysis of vegetable and animal substances, and mineral bitumens, by fire.

Vegetable substances, burnt in the open air, are resolved, partly into smoke, which, condensed, forms soot; and partly into white ashes, which
generally

generally give out, on being boiled in water, a fixt alkaline salt. Animal substances, and mineral bitumens, are resolved in like manner into soot and ashes; with this difference, that the ashes of these yield rarely any alkaline matter, and that they emit in burning a different kind of smell.

On submitting the same subjects to a like degree of heat in close vessels, different products are obtained. From most vegetables there arises a watery and acid liquor; a reddish, empyreumatic, acrimonious oil, which swims on its surface; at length, in the utmost degree of fire, a thicker black oil, which sinks to the bottom; and sometimes a little volatile alkaline salt: from animals a watery and alkaline liquor, a volatile alkaline salt, and oils of a more fetid kind: from bitumens, an acidulous liquor, an oil approaching to the nature of petroleum, and sometimes a concrete subacid salt: a black insipid coal remaining in all cases behind. About the appearance of the first oil, there is commonly extricated a large quantity of air, or elastic vapour, which, if the fire is hastily urged, and no exit allowed it, either bursts the vessels, or blows off the receiver.

5. Calcination of metallic bodies.

The metals (a) called imperfect or destructible, as tin, lead, bismuth, zinc, regulus of antimony, copper, and iron, on being exposed to the joint action of fire and air, gradually lose their metallic form, and change into a friable or powdery calx; which, urged with a stronger heat, either does not melt, or runs into a vitreous mass, not miscible with metals in their entire state any more than earths and earthy glasses. Some emit flames in their calcination: zinc in particular burns strongly and vividly: from whence it is presumed, that an inflammable substance is one of the constituent principles of these metals, and that the loss of their metallic form and qualities in calcination is owing to the avolation of this principle.

The calcination is greatly promoted by the addition of nitre; which, with most of these metals, visibly deflagrates, and is by all of them alkalized in the same

(a) The term *semimetal* is throughout this work avoided, as being liable to ambiguity. All the pure metallic bodies I have called by the general appellation of *metals*: such of them as want malleability, are, I presume, as properly distinguished by the epithet *brittle* or *unmalleable*, as by a name which may be imagined to imply that one half of their substance is of an unmetallic nature, and which, in effect, has been often understood in this sense, and accordingly applied to ores, vitriols, and metallic recrements.

same manner as by charcoal or other inflammable substances. The calx is freed from the saline matter by ablution with water : a part of it commonly dissolves in the water along with the alkalized salt, but either separates spontaneously on standing, or may be precipitated by adding any acid.

A little powdered charcoal, or any other inflammable matter not partaking of a mineral acid, added to the destructible metals in fusion, prevents their calcination : and the calces and glasses, melted with the like additions, recover the principle which they had lost, and are revived or reduced ; that is, they resume their metallic appearance, and all their former qualities. But, in order to this reduction ; as calces in general melt much more difficultly than the metals themselves, and some of them scarce at all when the fire acts on them through the sides of a vessel ; an addition of fixt alkaline salt, borax, or fusible glass is generally requisite, for bringing them into fusion ; as well as of inflammable substances, for restoring their metalleity.

All the metals dissolve in acids ; some in one acid, and others in another : the dissolution, like that of absorbent earths and alkaline salts, is generally accompanied with an effervescence, heat, and discharge of vapours. In this process, the phlogiston or inflammable principle of the imperfect metals, is absorbed or expelled : hence the vapour, which arises during the dissolution in the vitriolic acid of the metals which abound with this principle, is inflammable and truly sulphureous : and hence the metal, precipitated from the acid by alkaline salts, or by other bodies void of inflammable matter, is found to be a true calx, which, like the calces made by fire, cannot be revived without the introduction of fresh phlogiston.

The perfect metals, gold, silver, and mercury, suffer no resolution, or dissipation of any of their principles, from any known power. If changed into the appearance of a calx, by fire or by additions, they are recoverable without loss, either by the simple action of a stronger heat, or by the addition of such substances as may barely absorb from them the matter by which their form had been concealed.

All the WEIGHTS and MEASURES mentioned in this book, are those of the London pharmacopœia :—the troy pound, divided into twelve ounces, the ounce into eight drams, the dram into three scruples, and the scruple into twenty grains :—the wine gallon, divided into eight pints, the pint into sixteen ounces, and the ounce into eight drams or two spoonfuls.

ADVERTISEMENT.

TH E author of this treatise published, in the year 1748, proposals for printing by subscription a work entitled, *Commercium philosophico-technicum, or the Philosophical commerce of arts*, designed as an attempt to advance useful knowledge. He takes the present opportunity of declaring, that though the publication has been unavoidably delayed, the work has been continually going on: and he hopes that it will be found more extensively useful and perspicuous, by an alteration, which time has enabled him to make in the disposition of the materials. Instead of a collection of miscellaneous experiments, as proposed at first, the several articles will be arranged under proper heads, and the whole conducted in a systematic order. The first number will be published about the beginning of the ensuing winter.

Those who chuse to encourage this undertaking are desired to send their names to Dr. LEWIS, at Kingston, or to R. WILLOCK, Bookseller, in Cornhill.



GEORGE R.

WHEREAS our trusty and well-beloved WILLIAM LEWIS, of *Kingston upon Thames*, in our County of *Surry*, Batchelor of Physic, hath, by his Petition, humbly represented unto us, that he hath, by great Study, Labour, Application and Expence, composed a new Work, entitled “AN EXPERIMENTAL HISTORY of the MATERIA MEDICA, or of the Natural and Artificial Substances made use of in MEDICINE; containing a compendious View of their Natural History, an Account of their Pharmaceutic Properties, and an Estimate of their Medicinal Powers, so far as they can be ascertained by Experience, or by rational Induction from their sensible Qualities;” which he apprehends will be of great Use and Benefit to our Subjects, and to all concerned in the Practice of Physic, or in preparing or compounding of Medicines, &c. has therefore humbly prayed us to grant him our Royal Licence and Privilege for the sole Printing, Publishing, and Vending the said Work, for the Term of fourteen Years, agreeable to the Statute in that Case made and provided: We are graciously pleased to condescend to his Request, and do accordingly, by these Presents, as far as may be agreeable to the Statute in that Case made and provided, grant unto him the said WILLIAM LEWIS, his Executors, Administrators and Assigns, our Royal Licence for the sole Printing, Publishing, and Vending the said Work, for the Term of Fourteen Years from the Date hereof; strictly forbidding all our Subjects, within our Kingdoms and Dominions, to Reprint, Abridge, or Publish the same, either in the like, or any other Volume, or Volumes, whatsoever, or to Import, Buy, Vend, Utter, or Distribute any Copies thereof Reprinted beyond the Seas, during the aforesaid Term of Fourteen Years, without the Consent and Approbation of the said WILLIAM LEWIS, his Heirs, Executors, Administrators and Assigns, under their Hands and Seals, first had and obtained, as they will answer the contrary at their Peril; whereof the Commissioners, and other Officers of our Customs, the Master, Wardens, and Company of Stationers, are to take Notice, and that the same may be entered in the Register of the said Company, and that due Obedience be rendered to Our Will and Pleasure herein declared.

Given at Our Court at *St. James's*, the 13th Day of *July*, 1761, in the first Year of Our Reign,

By His Majesty's Command,

W. PITT.

T H E

M A T E R I A M E D I C A.

A B I E S.

FIR: an evergreen coniferous tree; with numerous, narrow, stiff leaves, standing solitary, or unconnected at the bases with one another.

1. *ABIES Pharm. Paris. Abies conis sursum spectantibus sive mas C. B.* The yew-leaved or silver fir; with a white bark, roundish-pointed leaves somewhat cloven at the tips, and short cones standing upwards.

2. *PICEA: Abies picea Pharm. Paris. Picea major prima sive abies rubra C. B.* The common, or red fir, or pitch tree; with a reddish bark, slender sharp-pointed leaves, and long cones hanging downwards.

These trees are natives of the northern climates: the first grows chiefly on dry, mountainous places; the second in lower and moister grounds. In this kingdom, they are rarely found wild, particularly the first sort: Norway, Switzerland, and some parts of Germany, produce both kinds in abundance.

ALL the parts of these trees contain a resinous juice impregnated with essential oil; in smell not disagreeable, in taste bitterish and moderately pungent: from incisions made in the trunks, one of the

B

finest

finest of the turpentine is obtained, (see *terebinthina*). The red fir appears to be the most resinous; the silver fir is the most grateful: of both sorts, the cones are more agreeable than the leaves, and these than the wood. The leaves, though evergreen on the tree, lose of their colour on being dried, and change in keeping to a yellow or brown.

Rectified spirit of wine, digested on the fir, dissolves completely its active parts, along with which it takes up also some portion of the insipid gummy or mucilaginous substance: from the fresh or new dried leaves it gains a yellowish green, from the cones and the wood a brownish or yellowish red tincture. The filtered solutions, mixed largely with water, grow milky and throw off greatest part of their resin with its oil, which may thus be obtained in a state nearly approaching to that of turpentine, the gummy substance being retained by the aqueous fluid. On committing the solutions to distillation, the spirit brings over with it a little of the lighter oil of the fir, so as to be sensibly impregnated with its smell; leaving behind an extract, different from the resin separated by water and from the native turpentine, in having an admixture of gummy matter, from which they are free.

*Oleum tem-
plinum verum
Germanicum.

Water, though it dissolves little or nothing of the pure turpentine, yet, by the mediation of the gummy matter in the fir itself, extracts part of its resin. In distillation with water, a considerable quantity of essential oil arises: the oil drawn from the wood is nearly similar to the oil of turpentine: that obtained from the fresh cones* is superiour, in subtility and fragrance, to all the oils of the terebinthinate kind usually met with (a). The decoction remaining after the distillation, inspissated to the consistence of an extract, retains the bitterishness, and some share of the pungency of the fir.

The tops and cones of the fir tree, by virtue of their balsamic juice, tend moderately to warm and strengthen the habit, resist putrefaction, and promote perspiration and urine, and the natural secretions in general. Among us, they are used chiefly by the common people, as an ingredient in diet-drinks; in some parts of Europe, they are prescribed by physicians in decoctions and spirituous tinctures; against scorbutic and other impurities of the humours. Frederic Hoffman the elder relates, that in a scurvy which raged among the Swedish army, during their wars with the Muscovites, a decoction of the leaves and tops of the fir, made in water or ale, was found an effectual remedy and pre-

(a) Zimmermann, *Prælect. Chym. Neum.*

preservative (a). The Augustan college joins, to the balsam of the fir, the pungent virtues of *cochlearia*; by bruising the cones whilst young, tender, and of a red colour, digesting them for two days in four times their quantity of spirit of scurvygrass, and then pressing out and filtering the tincture,* which is, doubtless, as the authors observe, a medicine of great efficacy.

* *Essentia abietis Ph. Augustan.*

3. *ABIES CANADENSIS Pharm. Paris. Abies minor pectinatis foliis, virginiana, conis parvis subrotundis Plukenet.* Virginia or Canada fir; with roundish-pointed leaves, sometimes cloven, standing like the teeth of a comb in two rows on each side the branches, and variegated underneath with a double line of whitish dots (b).

4. *BALSAMEA; Abietis taxi foliis species odore balsami gileadenfis Raii suppl.* Balm-of-gilead fir; so called from the fragrant smell of the leaves when rubbed. The leaves are roundish-pointed, and slightly cloven, nearly like those of the silver fir: the cones are long and pointed, and stand erect.

THESE foreign firs, now naturalized to our own climate, promise to be superiour, for medicinal uses, to the two preceding; their resinous matter being of a finer and more grateful kind. From the Canada fir is extracted, in America, by wounding it during the summer heats, an elegant balsam, which is sometimes brought into Europe under the name of *balsamum Canadense*. The balm-of-gilead fir has a more agreeable fragrance, approaching to that of the celebrated balsam from which it receives its name: a valuable resin exudes from the cones, in considerable quantity; and resins nearly of the same kind may be extracted by spirit of wine, both from the cones and from the leaves.

ABROTANUM MAS.

ABROTANUM MAS Pharm. Edinb. Abrotanum mas angustifolium majus C. B. SOUTHERNWOOD: a plant, with woody brittle branches; numerous greyish green leaves, divided into slender segments; and small yellow naked discous flowers, hanging downwards, in clusters, along the sides of the stalks and branches.

This plant is a native of open mountainous places, in the warmer

(a) *Clavis Schræderian.* p. 394.

(b) *Linnaeus, Species plantarum* 1002.

climates. With us, it is raised in gardens, from slips or cuttings; seldom producing seeds, and not often flowers. The leaves fall off in the winter: the roots and stalks are perennial.

THE leaves and tops of southernwood have a strong smell, to many people agreeable; and a nauseous penetrating bitterish taste: they lose a little by drying both of their taste and smell. The flowers are somewhat weaker than the leaves. The cortical part of the younger roots has a light not ungrateful bitterness, with little or nothing of the peculiar flavour of the herb.

Infusions of the leaves made in water are of a brownish hue, in taste and smell not unpleasant: decoctions are darker coloured and very nauseous. In distillation with water, there arises an essential oil, of a bright yellow colour, in smell exactly resembling the plant. This oil distils slowly, and towards the end of the process proves very foul: rectified, or distilled a second time with fresh water, it leaves behind a considerable quantity of an inodorous and almost insipid resinous matter. From sixteen pounds of the fresh leaves and tops were obtained scarcely three drams of oil, which left in rectification above half a dram of resin.

Tinctures of the leaves, made in rectified spirit, are of a deep green colour, and taste strongly of the southernwood: the smell is covered by the spirit. The spirit, distilled off from the filtered tincture, has very little of the flavour of the herb: the remaining extract retains a considerable share of its smell, and resembles it more perfectly in taste than an extract made by water; though it is much less ungrateful than either that extract or the herb in substance. Rectified spirit appears to dissolve the aromatic part more easily, and the nauseous part more difficultly, than watery menstrua.

This bitterish pungent plant has been employed as a moderately stimulating deobstruent, in different cachectic disorders; as an anthelmintic; and as possessing some degree of an anodyne or antispasmodic virtue depending on the oil or odorous matter. In the present practice, it is scarcely otherwise made use of than for external purposes, as an ingredient in discutient and antiseptic fomentations; in which intention it appears to be of no inconsiderable efficacy. It has likewise been recommended in unguents for promoting the growth of hair; a virtue to which it does not appear to have much claim.

ABROTANUM

A B R O T A N U M F E M I N A.

ABROTANUM FEMINA Phar. Edinb. *Abrotanum femina*
foliis teretibus C. B. *Santolina foliis teretibus* Tourn. *Chamæcy-*
parissus J. B. LAVENDERCOTTON: a bushy shrubby plant, all
 over hoary; with oblong slender leaves, composed each of four rows
 of little knobs set along a middle rib; and naked discous yellow flowers
 standing solitary on the tops of the stalks.

It is a native of the southern parts of Europe; flowers, in our gar-
 dens, from June to near the end of summer; and holds its leaves all
 the winter.

THIS plant is supposed to agree in virtue with the foregoing *abro-*
tanum, and to be the most effectual of the two as an anthelmintic. It
 has been customary among the common people to use, in this inten-
 tion, a decoction of the leaves, made in milk; which receives from
 them a thick consistence, and a strong, though not very disagreeable
 taste.

On careful examination, the two *abrotana* appeared to differ very
 considerably in quality. The *femina* is in smell weaker and less agree-
 able than the *mas*; in taste, nauseous and acrid, but void of the pene-
 trating bitterness which prevails in the other. Infusions, tinctures,
 and extracts, prepared from the *femina*, are more unpleasant than those
 of the *mas*, though not bitter. The essential oils of the two plants,
 and of consequence their distilled waters and spirits, approach nearer in
 flavour to one another, though not entirely alike.

These differences, doubtless, affect their virtues as internal medi-
 cines. Nevertheless, for fomentations, which is the principal use
 that either of them is applied to in the present practice, they may be
 looked upon as very nearly alike: Hence the college of physicians at
 London, under the name *abrotanum*, allow either the *mas* or *femina* to
 be taken indifferently.

A B S I N T H I U M.

WORMWOOD: a perennial plant; with hoary, divided leaves;
 firm woody stalks, which die in the winter; and small yellow naked
 discous flowers, hanging downwards, like little buttons, along the
 sides of the stalks and branches.

I. *ABSINTHIUM VULGARE* *Pharm. Lond. & Edinb.* *Absinthium vulgare majus* J. B. *Absinthium ponticum seu romanum officinarum seu dioscoridis* C. B. Common Wormwood; with large leaves, divided into several deeply indented segments, of a whitish green colour above, and whiter underneath, broader than those of any other species of wormwood. It grows wild about dunghills, and on dry waste grounds; and flowers in June or July.

THE leaves of wormwood have a strong offensive smell, and an intensely bitter nauseous taste: the flowers are equally bitter, but somewhat less nauseous: the roots are warm and aromatic, without any thing of the bitterness or offensiveness which prevail in the other parts of the plant. The leaves lose a part of their ill smell, on being dried and kept for some time.

Wormwood leaves give out nearly the whole of their smell and taste both to aqueous and to spirituous menstua. The watery infusions, prepared without heat, are the least ungrateful. The colour of the infusions made in cold water is a pale brown, in warm water a sooty brown, in proof spirit yellowish. Rectified spirit gains from the fresh leaves a beautiful green, from the dry a reddish or brown tincture.

* *Oleum absinthii Pharm. Lond. & Edinb.*

Rectified spirit elevates little from this plant in distillation: water brings over nearly the whole of its smell and flavour. Along with the aqueous fluid, there arises an essential oil*, which smells strongly and tastes nauseously of the wormwood, though not bitter. The oil drawn from the fresh herb is commonly of a dark green, from the dry of a deep yellowish brown colour. The quantity of oil varies greatly, according to the soil and season, in which the wormwood is produced: in some years, ten pounds have afforded upwards of two ounces; in others, twenty pounds have yielded little more than one ounce. Geoffroy observes, that it is in rainy seasons, and moist soils, that it yields the most oil; that in dry years the oil is accompanied with a resinous matter, and proves of a fine green colour; and that in wet ones it is less resinous, and not green(a).

† *Extractum absinthii Ph. Edinb.*

A decoction of wormwood in water, long boiled, and inspissated to the consistence of an extract†, loses the distinguishing smell and ill flavour of the plant, but retains its bitterness almost entire. An extract made with rectified spirit contains, along with the bitter, nearly the whole of the nauseous part; water carrying off, in the evaporation, all the oil, in which the offensive flavour resides, while pure spirit elevates very

(a) Geoffroy, *Mém. de l'acad. royale des scienc. de Paris, pour l'ann 1721.*

very little of it. The watery extract gives out its simple bitterness, not only to water again, but to rectified spirit.

WORMWOOD is a moderately warm stomachic and corroborant: for these intentions, it was formerly in common use, but has now given place to bitters of a less ungrateful kind. The above experiments, however, point out a method of obtaining from this plant a bitter sufficiently elegant, of little or no particular flavour, and this either in a solid form, or in that of a watery or spirituous solution.

The essential oil is sometimes given, in doses of a drop or two properly diluted, as a mild antispasmodic. Its more frequent use is as a vermifuge, for which purpose, it is both applied to the belly, and taken in pills made up with crumb of bread: the spirituous extract, however, promises to be, in this intention, preferable to the pure oil; as it contains, along with the oil, all the bitter matter of the wormwood.

This plant very powerfully resists putrefaction, and hence is made a principal ingredient in antiseptic fomentations.

Boerhaave commends, in tertian agues, a medicated liquor, prepared by grinding about seven grains of the oil of wormwood with a dram of sugar, and two drams of the alkaline salt extracted from the ashes of wormwood, (see *sal alkalinus*); and afterwards dissolving the compound in six ounces of the distilled water of the plant. Two hours before the fit is expected, the patient is to bathe his feet and legs in warm water, and then drink half an ounce of the liquor every quarter of an hour till the two hours are expired: by this means, he says, cases of this kind are generally cured with ease and safety, provided there is no scirrhusity or suppuration (*a*). The medicine is, doubtless, a very serviceable aperient, where obstructions of the viscera prohibit the immediate use of bark, and in such obstructions as the imprudent use of astringents has given rise to. Its virtues might be improved by an addition of the bitter watery extract; though the compound, thus laboriously prepared, would not be at all superiour to a simple infusion of the plant, in pure water, impregnated with a due proportion of fixt alkaline salt.

The roots of wormwood, though not hitherto, that I know of, introduced into medicine, promise to be applicable to some useful purposes; being moderately warm and aromatic, of a flavour sufficiently grateful, and remarkably durable in the mouth. Their virtue resides chiefly

(*a*) Boerhaave, *Elementa Chemicæ*, processus 39.

chiefly in the cortical part, the interior woody matter being nearly insipid. Rectified spirit extracts their flavour, more perfectly than watery liquors. The spirituous tincture is of a reddish brown colour: inspissated, it yields an extract more grateful than the root in substance.

2. *ABSINTHIUM MARITIMUM nostratibus romanum falso dictum Pharm. Lond. Absinthium marinum album Ger. Absinthium seriphium sive marinum anglicum Park.* Sea-wormwood, falsely called in our markets Roman wormwood; with finely divided leaves, hoary all over. It grows plentifully about our salt marshes, and in several parts on the sea coast.

THIS species is in taste and smell considerably less unpleasant than the common wormwood; and hence is preferred by the college as an ingredient in some of the distilled waters. Even the essential oil, which contains the whole of its flavour concentrated, is somewhat less ungrateful; and the watery extract, somewhat less bitter, than those of the common wormwood. Its virtues are the same, differing only in degree: it is less effectual as an antiseptic and anthelmintic, on account of its being weaker; and more eligible as a stomachic, on account of its being less offensive. A conserve of the tops, made by beating them with thrice their weight of fine sugar, is kept in the shops*.

* Conserva
summitat. ab-
sinth.maritimi
Pharm. Lond.

3. *ABSINTHIUM ROMANUM Pharm. Edinb. Absinthium minus Pharm. Paris. Absinthium ponticum tenuifolium incanum C. B.* Roman wormwood; with more numerous, more finely divided, darker coloured leaves, hoary only underneath. This is a foreign species, but as hardy, and as easily raised, as the others: the roots quickly spread, and send up abundance of new plants. Sea wormwood has been often sold for it in the markets, though the difference betwixt the two, above pointed out, is very obvious on sight.

ROMAN WORMWOOD is considerably less ungrateful than either of the two foregoing: its smell is weaker, and not unpleasant; and its bitterness is mixed with a kind of aromatic flavour, so as scarce to be disagreeable. It appears to be the most eligible of the three as a stomachic and corroborant; in which intention, a conserve of the tops has been greatly recommended, and is undoubtedly an elegant and useful preparation.

4. *ABSINTHIUM*

M A T E R I A M E D I C A.

9

4. ABSINTHIUM ALPINUM *Pharm. Paris.* *Absinthium alpinum candidum humile C. B.* Mountain wormwood: procumbent, fine leaved, and covered with a glossy silk-like down (*a*).

5. ABSINTHIUM VALESIACUM: *Absinthium seriphium montanum candidum C. B.* *Herba alba Dod.* Mountain Wormwood of Valais: erect, fine leaved, and covered with a cotton-like down: the leaves are curled about the edges, so as to appear, with their down, pulpy and of an oblong rounded figure (*a*).

HALLER informs us, that the first of these plants is frequent in stony grounds on the Alps, and the second by the sides of sandy roads in the territory of Valais in Switzerland: that the former is bitterish, aromatic, of great estimation among the inhabitants of the Alps, the common remedy against the intermitting fevers which often rage there, and for exciting the menstrual discharges to which the sudden colds of those countries give frequent checks: that the latter has an acrid aromatic smell and taste, without bitterness, and promises, from its sensible qualities, to be a plant of great virtues (*a*). They have not yet been introduced into practice in this country.

A C A C I A.

ACACIA Pharm. Lond. & Edinb. ACACIA: a subastringent gummy substance, usually of a firm consistence, but not very dry; brought from Egypt, in roundish masses, wrapt up in thin bladders, from four to eight ounces in weight, outwardly of a deep brown colour inclining to black, inwardly of a reddish or yellowish brown; prepared by inspissating to a due consistence, the juice expressed from the unripe pods of a large prickly tree called by *C. B. acacia foliis scorpioidis leguminosæ*.

ACACIA has no manifest smell. Applied to the tongue, it quickly softens, and discovers a moderately rough not ungrateful taste, which is followed by a kind of sweetishness. It dissolves totally in water, except the impurities, which, in the specimens I examined, amounted to a considerable quantity. Proof spirit dissolves a part: rectified spirit extracts from it little or nothing. This juice appears therefore to be truly of the gummy kind; and to differ essentially, in its nature and pharmaceutic properties, from the generality both of astringent

C

juices,

(*a*) Haller, *Stirp. Helvetic.* p. 695: *Artemisia* 2 & 3.

juices, as hypocistis and terra japonica, and of astringent vegetables in substance, as bistort and tormentil roots, whose styptic matter is extracted by spirit of wine as well as water.

This mild gummy astringent may be given to advantage in disorders arising from laxity and acrimony, as habitual diarrhœas, uterine fluors, and catarrhal coughs. It is used by the Egyptians against spittings of blood, in doses of a dram; and employed in collyria for strengthening the eyes, in gargarisms for quinsys, and in glysters for diarrhœas^(a). Among us, it is scarcely otherwise made use of than as an ingredient in mithridate and theriaca.

A C A N T H U S.

ACANTHUS Pharm. Paris. Branca-ursina: Acanthus sativus vel mollis virgilii C. B. BRANKURSINE or BEARS-BREECH: a plant with large, elegantly sinuated, soft leaves; among which arises a single stalk, bearing a long spike of monopetalous labiated flowers, the upper lip of each of which is wanting, the stamina standing in its place.

This plant is a native of moist warm soils in the southern parts of Europe, and cultivated with us in gardens. It is perennial, and flowers in June and July.

THE roots and leaves of brankursine abound with a soft, insipid, mucilaginous substance; which is readily extracted by coction or infusion in water, and remains entire upon evaporating the liquid. The roots are the most mucilaginous; and the mucilage, obtained from them, is the most viscous and tenacious.

Rectified spirit, digested on the leaves, extracts from them a fine deep green tincture; which, as the editor of the Wirtemberg pharmacopœia observes, is more durable than the green communicated to spirit by other herbs. The menstruum receives no particular taste or flavour from the plant.

Brankursine has long been a stranger to practice in this country. In those places where it is common, it is employed for the same purposes, to which the althea and other mucilaginous vegetables are applied among us.

(a) Alpinus, *de plant. Ægypt.* cap 4. & *de medicina Ægyptior.* lib. iv. cap. 14.

A C E R.

ACER MAYUS: *Acer montanum candidum* C. B. *Platanus Tragi.* GREAT MAPLE, improperly called SYCAMORE: a large tree, with pentangular serrated leaves; producing small greenish flowers, and a fruit composed of two capsules including, each, a whitish seed at the end where they are joined, and spreading at the opposite end into a membranous wing. It is a native of the mountains of Switzerland and Austria, and now common in England.

ALL the parts of the maple contain a sweet saccharine juice; which, exuding on the surface of the leaves, renders them subject to be preyed on by insects. The roots, trunk, or branches, wounded early in the spring, bleed a large quantity of clear liquor; which, in its dilute state, tastes somewhat sweetish; and, on being inspissated, yields a brown coloured concrete sugar, with a syrupy matter resembling melasses.

The juice, unboiled, has been drank as an antiscorbutic. The sugar and melasses, which are less sweet than those extracted from the sugar cane, and whose sweetness is likewise somewhat different in kind (*a*), are supposed to be more medicinal in disorders of the breast. Considerable quantities of this sugar, made from a species of maple in Canada*, are imported for that use into some parts of Europe, particularly France.

* Saccharum Canadense.

A C E T O S A.

ACETOSA, *Lapathum acetosum*, *Rumex*. SORREL or Sourdock: a species of dock (see *lapathum*) with acid leaves.

1. *ACETOSA VULGARIS*, *OXALIS*, *Pharm. Edinb.* *Acetosa pratensis* C. B. Common Sorrel; with the leaves shaped like an arrow-head, and very short or no ears at the bottoms.

2. *ACETOSA ARVENSIS*, *minor*: *Acetosa arvensis lanceolata* C. B. Sheeps Sorrel; with arrow headed leaves, of which those on the stalk have no ears, those from the root long diverging ones.

3. *ACETOSA rotunda*, *Pharm. Paris.* *Acetosa hortensis rotundifolia* C. B. Garden or French sorrel; with roundish leaves and ears.

(a) Kalm, *Svenska vetensk. academ. handl.* 1751.

THE leaves of these plants are mildly acid, without any smell or particular flavour: the common sorrel is the least, the garden sort the most agreeable. They were all formerly directed as officinals; and occasionally made use of, for abating heat, quenching thirst, and preventing or correcting a tendency to putrefaction, in febrile and scorbutic disorders; but at present are less regarded, other vegetable acids having in good measure supplied their place.

The leaves yield, upon expression, a large proportion of thick, turbid, green coloured juice: which, on standing till the feces have subsided, becomes clear and reddish, and in taste more gratefully acid than the herbs in substance. This is one of the most elegant preparations of sorrel for medicinal use, and may be advantageously joined, in scorbutic cases, to the juices of the acid herbs: the inhabitants of Greenland, who are very subject to these distempers, are said to employ, with good success, a mixture of sorrel and *cocklearia* (a).

* Saleffentiale
acetosæ Ph.
Edinb.

Greatest part of the acid matter of sorrel may be obtained also in the form of a concrete salt; by inspissating the depurated juice to a due consistence, and setting it to crystallize*. This salt is supposed to approach to the nature of tartar; from which, however, it obviously differs, in being more acid, more easily dissoluble in water (b), and less, if at all, purgative.

The roots of the sorrels have a roughish bitterish taste, without any acidity. They have been looked upon as aperient and diuretic; and, in these intentions, have been sometimes made ingredients in watery infusions and decoctions, to which they communicate a reddish hue: the garden sorrel gives the lightest, the common wild sort the deepest red. It is observable, that acid liquors, which in general heighten vegetable reds, destroy this red tincture of sorrel roots: alkalies change it to a purplish; chalybeate solutions, to a deep green.

The seeds of sorrel are slightly astringent, without acidity or bitterness. They had long a place in the shops, as ingredients in some of the old alexeterial compositions, from which they are now deservedly expunged.

A C E T U M.

ACETUM Pharm. Lond. & Edinb. VINEGAR: a vegetable acid liquor, produced by fermentation; either directly from fermentable

(a) Bartholinus, *Act. Hafniens.* 1671. obs. 9. (b) Neumann, *Chemical works*, p. 257, 424.

mentable juices or infusions; or from such as have been previously fermented into a vinous state. The more spirituous the wine, the more acid is the vinegar.

VINEGAR is not a pure or simple acid, like those of the mineral kingdom: the vapidty and putrefaction to which it is subject, and its chemical analysis, discover, that it participates largely of an oily matter. Distilled by a moderate heat, not exceeding that of boiling water, it yields first a phlegmatic liquor, afterwards a slightly acid one, which is succeeded by stronger and stronger acids*, till the matter in the distilling vessel becomes thick and unctuous like honey: the vinegar prepared from malt liquors contains more of this viscid substance than that of wine, and hence is more disposed to become ropy and slimy in keeping. This residuum, urged with a stronger fire, gives over an empyreumatic oil, and a penetrating acid spirit tainted with the ill smell and yellow colour of the oil. There now remains a black coal, which, burnt into white ashes, yields a considerable proportion of fixt alkaline salt.

* Acetum distillatum *Pb.*
Lond. & Edin.

Pure fixt alkaline salt, saturated with the colourless distilled liquors, and afterwards exsiccated, contracts a yellowish or brown tinge; and thus betrays, that the acid still retains a portion of the oil. On gently melting the dry salt, the oily matter burns to a black coal, which separates on dissolution in water: the solution exhaled to dryness, leaves a perfectly white neutral salt, containing the pure acetous acid combined with the alkali. On adding to this compound a little oil of vitriol, the acetous acid is disengaged, and may now be collected by distillation, in a highly concentrated state, and of a very pungent volatile smell.

The quantity of fixt alkaline salt, which vinegar is capable of saturating, is one of the surest criterions of its strength. The best of the German vinegars, according to Stahl, saturate little more than one fortieth of their own weight; the French vinegars, examined by Geoffroy, above one thirty-fifth, and some of them no less than one twelfth; the common distilled vinegar of our shops, about one twentieth. By congelation, and distillation from alkalies and other bodies, the acid may be so far concentrated as to saturate near equal its own weight; a greater degree of strength, than even the mineral acid spirit of sea salt can easily be brought to.

The acetous acid, however purified or concentrated, differs essentially from all the others: --- from the native vegetable acids, in subtilty and

and volatility; not being obtainable in the form of a concrete salt, which most, perhaps all, of the native ones are; and rising in distillation with a moderate heat, which none of the native ones have been found to do; the acid juices giving over, in the heat of boiling water, only their aqueous fluid, and having greatest part of their acidity destroyed by a stronger heat: --- from the mineral acids, in its habitude to different bodies, and the nature of the compounds which it forms with them: thus, whatever alkaline, earthy, or metallic substance, the acetous acid be combined with, the addition of any mineral acid will disjoin them, the mineral taking the place of the acetous: neutral salts, composed of the acetous acid and fixt alkalies, dissolve, totally and plentifully, in rectified spirit of wine, whilst those, composed of the same alkalies and mineral acids, are not at all soluble in that menstruum: in this property, the acetous acid differs also from most, perhaps from all, of the acids of its own kingdom: --- and from all acids in general, in its peculiar odour.

VINEGAR dissolves the elixated ashes of vegetables; animal earths, purified by incineration, or when naturally blended with but little gelatinous matter, as in shells; the earth of alum; and the mineral calcareous earths. --- The solubility of calcareous earth in the acetous acid, and its precipitability by that of vitriol (see *vitriolum*), afford a ready method of discovering the sophistication of vinegar, said to be sometimes practised, with vitriolic acid; and likewise of purifying it when so sophisticated. If a saturated solution of any calcareous earth, as chalk, made in strong vinegar, be added to such as is suspected of containing vitriolic acid, no change will ensue if the vinegar was pure, but if it contained even a minute portion of that acid, the mixture will immediately become milky, and on standing for a little time deposite a white sediment: if the calcareous solution be gradually dropt in, so long as it produces any milkiness or cloudiness, all the vitriolic acid will be absorbed by, and precipitate with, the chalk.

It dissolves, among metallic bodies, zinc, iron, copper, tin, lead, bismuth, and regulus of antimony; the two last in very small quantity, but sufficient to give a strong impregnation to the vinegar. It dissolves lead more easily when reduced into a calx, than in its metallic state: boiled even with the glass of lead, or in the common glazed earthen vessels (in the glazing of which, this metal is a principal ingredient) it extracts so much as to become strongly tainted with the pernicious qualities of the lead.

It

It dissolves the vegetable inspissated juices, and several of the gummy resins, and extracts the virtues of sundry plants in tolerable perfection; but at the same time its acidity makes a notable alteration in them, or superadds a virtue of a different kind. Some drugs however, for particular purposes, it excellently assists or coincides with, as garlic, squills, ammoniacum: and in many cases, where this acid itself is principally depended on, it may be advantageously impregnated with the flavour of certain vegetables: most of the odoriferous flowers impart to it their fragrance; and the blue, bright red, and some others, tinge it at the same time of a fine purplish or red colour.

It mingles equally with blood and its serum, and with most of the fluids of animals; not thickening or coagulating them, like the acids of the mineral kingdom; but tending rather, as Boerhaave justly observes, to attenuate and resolve coagulations. It is likewise, when taken internally, less stimulating than the mineral acids, and less disposed to affect the kidneys.

THIS mild unctuous acid is a medicine of great use in the different kinds of inflammatory and putrid distempers, both internal and external. It is one of the most certain antiphlogistics and sudorifics in high fevers, and one of the best preservatives against pestilential and other putredinous contagions. Fainting, vomiting, lethargic and hysteric paroxysms, are likewise frequently relieved, by vinegar, applied to the mouth and nose, or received into the stomach: lethargic persons are often found to be excited more effectually by vinegar blown into the nose, than by the far more pungent volatile spirits. Boerhaave observes, that this acid counteracts, in a peculiar manner, the effects of spirituous liquors.

The daily use of vinegar, with food, is salutary in hot bilious dispositions, and wherever there is a tendency to inflammation or putrefaction. It is prejudicial to children, to aged, hysterial, and hypochondriacal persons, in cold pale phlegmatic habits, where the vessels are lax, the circulation languid, and the power of digestion weak. It tends in all cases, if used freely, to prevent corpulence; Hoffman (*a*) suspects that it produces this effect by impeding the formation of chyle, or destroying the union of the unctuous and serous fluids of which chyle is composed; an effect common to all acids, as appears from their coagulating milk and artificial emulsions. I have seen great corpulence reduced by the liberal use of vinegar, (the acid commonly

(*a*) *Philosophia corp. human. morboſi, par. iii. cap. 3. § 7.*

commonly employed for this purpose) but not with impunity; diseases succeeding, which eluded the power of medicines, and proved at length fatal.

Combinations of vinegar with different earthy bodies differ in virtue according to the nature of the earth. A solution of the aluminous earth in this acid is strongly styptic; of vegetable earths, or magnesia alba, bitterish and gently purgative: both these solutions are milder, and less ungrateful, than those of the same earths made in the mineral acids, and though as yet unknown in practice, certainly deserve to be introduced. Solutions of different animal and the calcareous mineral earths are bitterish and subaustere, in various degrees; and supposed to act as mild resolvents, subastringents, or diaphoretics.

Combinations of vinegar with fixt alkaline salts, are useful aperients, diuretics, and cathartics. I have known two drams of the alkali, dissolved in as much vinegar as was sufficient to saturate it, occasion ten or twelve copious watery stools, and a plentiful discharge of urine, without griping or fatiguing the patient. Mixtures of alkali and distilled vinegar, evaporated to a dry salt, are kept in the shops; either in a brownish oily state, as obtained by simple evaporation*; or purified to perfect whiteness, by gentle fusion and solution in water†: these preparations are given in doses of ten or twenty grains as mild aperients, and to a dram or two as purgatives and diuretics.

* Tartarus
regeneratus
Pharm. Edinb.
† Sal diureti-
cus *Ph. Lond.*
Terra foliata
tartari, & ar-
canum tartari,
vulgo.

It is somewhat difficult to hit the exact point of saturation between the acid and the alkali. After fourteen parts of strong distilled vinegar have been gradually poured upon one part of the salt, the addition of a little more of the acid will occasion no further effervescence while the mixture is cold, but if well heated and stirred, the effervescence begins again, and continues till four or five parts of fresh acid have been added; on exhaling the aqueous fluid, the remaining dry salt will generally still raise an effervescence with fresh vinegar, and require two or three parts more of the acid to render it completely neutral. There is, therefore, this advantage, in reducing the salt to a dry form, that the perfect neutralization can be obtained with greater certainty than when the ingredients are barely mixed together. The purification of the dry salt, or separation of its oil, renders it fitter for weak stomachs, on which it would not sit so easily in its impure state; though the medicine, thus purified, is in some particular cases less to be depended upon than the oily salt.

Combinations

Combinations of vinegar with volatile alkaline salts, (commonly made with distilled vinegar added gradually to the salt till the effervescence ceases*) have little purgative virtue, but operate powerfully as aperients; by urine if the patient walks about in the cool air, by perspiration or sweat, if kept warm in bed. They are principally made use of in this last intention: and as they act without any sensible irritation, they have place in inflammatory cases, where the warm sudorifics, if they fail of exciting a sweat, aggravate the distemper. The common dose of these solutions is half an ounce.

* Spiritus
Mindereri
Ph. Edinb.

A D I A N T H U M.

MAIDENHAIR: an evergreen plant; with slender, smooth, shining blackish stalks; producing no manifest flower. The seeds are a fine dust, lying in roundish specks, about the edges of the backs of the leaves, which curl over and cover them.

1. ADIANTUM *Pharm. Paris.* *Adiantum verum.* *Capillus veneris:* *Adiantum folio coriandri C. B.* True maidenhair: about half a foot high, with several pinnæ of little roundish sinuated or nearly triangular leaves towards the tops of the stalks.

2. ADIANTUM CANADENSE *Pharm. Paris.* *Adiantum fruticosum brazilianum C. B.* Canada maidenhair: larger, with spreading branches.

The first sort grows wild in Italy and the southern parts of France, from whence the dry leaves are sometimes brought to us. The second, a native of America, is cultivated in some of our gardens.

THE leaves of both the maidenhairs have a slight sweetish roughish taste, and a pleasant but weak smell, very perceptible when boiling water is poured on them. They readily give out to the water the whole of their smell, taste, and medicinal virtue: the infusions are not ungrateful; particularly that of the Canada sort, whose flavour is both pleasanter and stronger than that of the other. Infusions or decoctions of them, inspissated, yield a moderately rough, bitterish, mucilaginous extract. Rectified spirit of wine takes up their taste and flavour, and gains from them a deep green colour, but dissolves little of the mucilaginous substance, in which a considerable part of their

D

virtue

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virtue consists: the extract, obtained by inspissating the tincture, is less in quantity, and stronger in taste, than that made with water.

Maidenhair has long been held in esteem against disorders of the breast; for promoting expectoration, softening recent coughs, and allaying the tickling in the throat occasioned by defluxions of thin rheum. For these purposes, a syrup of the true sort, flavoured with a little orange flower water, has been usually brought from France; and a syrup of the Canada sort, made with maple sugar, is sometimes received from America. The virtue of the maidenhair is obtainable, however, to much better advantage, by drinking an infusion of the herb as tea, sweetened either with sugar, or by the addition of a little liquorice. The English maidenhair (see *Trichomanes*) has been commonly substituted in the pectoral syrups and infusions made among us: the Canada species, which appears to be superiour to both, is said to have been long made use of in France, and has lately been introduced into practice in this country.

Æ R U G O.

ÆRUGO Pharm. Lond. & Edinb. *Ærugo vel viride æris Ph. Paris.* VERDEGRIS: copper corroded by a fermented vegetable acid into a bluish green substance. The greatest quantities are prepared about Montpellier, by stratifying copper plates with grape-stalks, that have been previously soaked in strong wine, and exposed to its vapour during a second fermentation of the wine continued to an acetous state^(a): the subtile acid, with which the stalks are thus impregnated, corrodes the surface of the plates, in a few days, into verdegris; which is afterwards scraped off, moistened, and packed up in skins. The masses, as brought to us, have generally some grape stalks intermixed: these may be separated by pulverization, as being less pulverable than the verdegris itself. The goodness of verdegris is judged of from the deepness and brightness of its colour, its dryness, and its forming, when rubbed on the hand with a little water or saliva, a smooth paste free from grittiness.

THIS concrete is partially dissoluble in water and in rectified spirit, and almost totally in vinegar: from the acetous solution, duly inspissated and set to shoot, greatest part of the verdegris may be recovered in a crystalline form*. The crystals, distilled with a suitable fire, in

* Distilled verdegris so called.

(a) Montet, *Mem. de l'acad. des Scienc. de Paris pour l'ann. 1750 & 1753.*

a retort or other like vessel, give over the acetous acid, in a highly concentrated state, but somewhat altered by the process.

Verdegris is employed externally for deterging foul ulcers and as an escharotic. Hoffmann (*a*) recommends it particularly for destroying the callosities of old fistulæ: tents of powdered verdegris, made up with saliva, or other liquids not fat or oily, exude, he says, the hardest callus, in three or four days, so as to render it completely separable. A detergent ointment is commonly prepared, by gently boiling five parts of verdegris in fine powder, with sixteen of honey and seven of vinegar, till reduced to a due consistence*. On keeping this mixture for some time, a thick matter, containing greatest part of the verdegris, falls to the bottom, and a thinner floats on the top: this last is the part made use of, unless where particular occasions require it to be rendered more acrid by shaking up the thick among it. When these kinds of applications are employed for venereal or other ulcerations in the mouth and tonsils, great caution is requisite, on the part of the patient, to guard against any portion of them passing into the stomach; an accident which has sometimes happened, particularly in childrens cases, and produced very dangerous and even fatal consequences.

* Mel Ægyptiacum Ph. Lond. Unguentum Ægyptiacum Ph. Edinb.

Verdegris is rarely or never given internally. Some recommend it, indeed, in the dose of a grain or two, as an emetic, which operates almost as soon as received into the stomach, and which may therefore be of use, where poisonous substances have been taken, to procure their immediate rejection. It appears, however, highly imprudent, to have recourse, on such occasions, to a remedy in itself so dangerous and so virulent; and more especially as a speedy evacuation may generally be obtained, by means of substances, which are not only innocent, but at the same time weaken the force of the poison by diluting and obtunding it; as warm water, milk, oils.

A G A R I C U S.

AGARIC: a fungus, growing on the trunks of trees, without any pedicle; internally of a simple and uniform structure throughout its whole substance.

I. AGARICUS Pharm. Lond. & Edinb. *Agaricus sive fungus laricis* C. B. Agaric: covered with a brown bark, full of small holes underneath; internally white.

D 2

This

(a) Med. rational. De ulceribus.

This fungus is met with on old larch trees, in the Levant, and in different parts of Europe: that produced in the Levant is accounted the best, but from what particular place or country the shops receive it, is not very clear. --- It comes forth on the tree in the beginning of spring, and continues to increase till autumn: at this time, it is cut off, the cortical part separated, and the internal part exposed for some weeks to the sun, by which its whiteness is improved. It is brought into the shops in irregular pieces, of different magnitudes, of a chalky whiteness, and very light: the best is easily cut with a knife, friable betwixt the fingers, and has no hard, or gritty, or coloured veins.

AGARIC has no remarkable smell: chewed, it impresses first a considerable sweetness, which is followed by a nauseous acrimony and bitterness. It is difficultly reduced to a fine powder in a mortar, on account of its fungous texture: it may be rendered more easily pulverable, by moistening it with a solution of gum tragacanth and afterwards thoroughly drying it.

It gives out little of its active matter to aqueous menstrua: after long boiling in water, it retains great part of its taste, and proves remarkably viscid and tenacious. The decoction has little taste or colour: inspissated, it leaves a small quantity of a brown coloured nauseous extract.

Rectified spirit takes up nearly the whole of the active matter, leaving the agaric almost insipid. The tincture is of a fine yellow colour, and of an unpleasant sweetness, which continues long in the mouth, and in good measure covers the heat and pungency of the spirit. The extract, remaining on distilling off the spirit, discovers less of the sweet, and more of the offensive bitterness of the agaric. Proof spirit has nearly the same effect as the rectified.

These experiments were made on the internal substance of agaric, as commonly met with in the shops. The cortical part seems to be of a different quality: Mr. Boulduc relates, that a spirituous tincture, drawn from this, had such an abominable taste, that a single drop, laid on the tongue, occasioned vomiting, and a loathing of food for a whole day (*a*). This fungus appears to differ also greatly in quality, at different periods of its growth: Bellonius informs us, that when full of juice, before it has come to maturity, its offensive effluvia are apt to excite violent symptoms in those who incautiously cut it from the tree (*b*).

Agaric,

(*a*) Boulduc, *Mem. de l'acad. roy. de Scienc. de Paris, pour l'ann. 1714*,

(*b*) Bellonius, *de arborib. conif. &c.* p. 25.

Agaric, taken from a scruple to two drams or more, is said to act weakly, though not very mildly, as a cathartic. It was formerly held in considerable esteem, and supposed to evacuate peccant humours from the remote parts of the body: but the great slowness of its operation (from which alone that quality appears to have been deduced), its occasioning little evacuation, and being commonly productive of nausea, sickness, and gripes; have brought it now deservedly into disuse. Gummy or mucilaginous substances, with which it was formerly made into troches and pills, in some degree correct its ill qualities: aromatics are, in this intention, of very little use. Extracts made from it, with vinegar, with wine, and with water in which a little fixt alkaline salt has been dissolved, are said to purge more effectually, and with less inconvenience, than the agaric in substance; though even these preparations do not appear to be equal to the more common and experienced cathartics. The ancients supposed it to be possessed of alexeterial powers, and in consequence of this imaginary virtue made it an ingredient in the theriaca, which is the only officinal composition wherein it is now retained.

2. AGARICUS QUERCINUS, *fungus igniarius*: *Agaricus pedis equini facie Tourn.* *Fungi arborei ad ellychnia J. B.* Agaric of the oak, called by some, from its great inflammability, touchwood or spunk: growing in form of a horse's hoof; without any visible pores; externally of an ash colour, internally dusky coloured, soft and tough. Though denominated from the oak, on which the best sort is supposed to be produced, the same fungus is found on several other kinds of old trees, throughout Europe.

THE agaric of the oak has lately come into esteem as an external styptic. It has been said to prevent hæmorrhages after amputations, as effectually as the painful operation by the needle; and to restrain bleedings in wounds, of several days or weeks standing, where the parts have become so rotten as to be incapable of bearing ligatures. For these purposes, the internal soft part of the fungus (divided into pieces of different sizes, and beaten with a hammer till it may be easily torn with the fingers) is applied to the orifices of the vessels, with the usual dressings over it. In a short time, the extremities of the vessels are said to be found contracted into a conical shape, and the orifices stoppt with plugs of coagulated blood, sufficient to resist the force of the circulation.

M A T E R I A M E D I C A.

Cases have been published, in which this application seemed to answer the character given of it^(a): in others, and those not a few, it proved ineffectual. Some have remarked, that where it seemed to succeed, the subjects were brought so low before the operation, that little danger was to be apprehended from a hæmorrhagy, though no other application had been made than that of dry lint and flour^(b).

Thus much is certain, that the agaric has already lost greatly of its repute, both in France (where it was first introduced) and in England; and that it does not appear, from its sensible qualities, to be possessed of any truly styptic power, at least in any considerable degree. Chewed, in substance, it discovers no taste: boiled in fresh parcels of water, it yielded about one fourteenth its weight of extract, which had only a weak sweetish taste, mixed with a kind of bitterness: treated in the same manner with rectified spirit, it yielded about one eighth its weight, of an extract, which had less taste than the other.

It is probable that this fungus acts no otherwise than as a pliable soft substance, adhering to the orifices of the vessels, till they have contracted spontaneously. Some other fungi were employed formerly in the same intention, and there are late accounts, in the Philosophical Transactions, of two having been used with success; namely the *lycoperdon*, or dusty mushroom; and that found on the casks and walls of wine-vaults, and thence called *fungus vinosus*.

A G N U S.

AGNUS CASTUS, *Vitex*, *Pharm. Paris.* *Agnus folio non serrato* J. B. *Salix amerina* Matth. *Elæagnon theophrasti* Lob.

AGNUS-CASTUS, or chaste-tree: a small tree or shrub, with tough branches, digitated narrow leaves, and monopetalous purplish flowers standing in spikes on the tops of the branches, followed by oblong whitish seeds. It is a native of the warmer climates, and cultivated in some of our gardens.

THE seeds of agnus were formerly celebrated as antaphrodisiacs; perhaps on no other foundation than the ceremony, observed by the Grecian matrons of old, of strewing the leaves in the temples, at the celebration of the chaste festivals of Ceres^(c). Experience does not discover

(a) Warner, *Cases in surgery*, &c. (b) Neale, *observations on the use of agaric*, &c.

(c) Bayle, *Crit. dict.* in the article thesmophoria.

discover in them any degree of such virtue, and some have ascribed to them an opposite one.

From their sensible qualities, their virtues, of whatever kind, do not appear to be very considerable. The seeds in substance, as met with in the shops, have little taste, and scarcely any smell, though described by authors as very hot and biting: extracts made from them, by water or spirit, are weakly bitterish and somewhat pungent. They seem to abound chiefly with a gross insipid oil, of the expressible kind; which is in part taken up by rectified spirit, and separates and falls to the bottom during the inspissation of the tincture: the oily matter is of a deep saffron colour, the inspissated extract somewhat paler.

A G R I M O N I A.

AGRIMONIA Pharm. Edinb. Eupatorium verum sive agrimonia C. B. AGRIMONY: a hairy plant; with winged leaves, composed of oblong indented segments, with smaller portions between, set on middle ribs which stand alternately on the stalk: on the top, grows a long spike of pentapetalous yellow flowers, followed by little burs, containing, each, one or two seeds. It is perennial, and grows wild in hedges and about the sides of fields.

THE leaves of agrimony have a slightly bitterish roughish taste, accompanied with an agreeable, though very weak, aromatic flavour: the flowers are in smell stronger and more agreeable than the leaves, and in taste somewhat weaker. They readily give out their virtues both to water and to rectified spirit: the leaves impart to the former a greenish yellow, to the latter a deep green colour: the flowers yield their own deep yellow tincture to both menstrua. In distillation with water, there arises a very small portion of a yellowish essential oil, which smells strongly and agreeably of the herb.

Agrimony is one of the milder corroborants; and in this intention is sometimes employed, especially among the common people, against habitual diarrhœas, and cachectic, and other indispositions from a lax state of the solids: infusions of the leaves, which are not ungrateful, may be drank as tea. It is sometimes joined with other ingredients in diet drinks for purifying the blood; and in pectoral apozems.

THIS plant is often raised in gardens; and does not seem to receive, from culture, any material change in its quality. Another species or variety, of foreign original, common also in our gardens, and differing little in appearance from our indigenous agrimony, promises to be superiour to it in virtue; as its taste is more aromatic, and its smell much stronger and very agreeable: Caspar Bauhine calls it *eupatorium odoratum*, Fabius Columna *eupatorium dioscoridis odoratum* & *aromaticum*.

ALCHIMILLA.

ALCHIMILLA Pharm. Edinb. *Pes leonis* sive *alchimilla* J. B. *Stellaria* Matth. LADIES MANTLE: an herb, with undivided plaited multangular leaves, and imperfect flowers standing in form of umbels on the tops of the stalks: the cup consists of four larger and four smaller leaves placed alternately. It is perennial, and grows wild in fields and meadows.

THE leaves of alchimilla are weakly astringent, without any remarkable smell or flavour. They have been recommended, internally, against alvine and uterine fluxes, in which they may doubtless be of some service; and externally, against certain female relaxations, which can yield but little to astringents of so mild a kind. Their styptic matter is extracted both by water and by spirit, and when separated from the fluids by inspissation, is still found to be weak: the spirituous extract is the strongest, this menstruum dissolving less, than water does, of the insipid mucilaginous substance of the leaf. The roots of the plant are more astringent than the leaves, and the extracts, made from them, are proportionably stronger. They both strike a black colour with solutions of chalybeate vitriol.

ALKEKENGI.

ALKEKENGI, *Halicacabum*, Pharm. Edinb. *Solanum vesicarium* C. B. *Vesicaria vulgaris* Dod. WINTER-CHERRY: a low, somewhat hairy plant; with unbranched stalks; large heart-shaped acuminate leaves, standing in pairs at the joints; and whitish bell-shaped flowers, rising in the bosoms of the leaves, divided about the edges into five segments: the flower-cup changes into

into a pentagonal capsule or bladder, which, bursting, discovers in its bottom a red fruit like a cherry, containing numerous small seeds with a juicy pulp. --- It grows wild in some parts of Europe, and spreads so much in our gardens as not to be easily extirpated. The fruit ripens about the beginning of October, and sometimes continues to near the end of December; after which, the plant dies to the ground.

WINTER-CHERRIES have an acidulous not unpleasant taste, mixed with, or followed by, a slight bitterness: the covering, in which they are inclosed, has a strong pungent bitterness, with which it is apt to impregnate the cherries, unless some care is taken in gathering them. As medical writers in general speak of this fruit as being very bitter, we may presume that it has been often used with this extraneous bitter impregnation.

These cherries are accounted powerful diuretics, operating without heat or irritation, and which may therefore be ventured on in inflammatory distempers: five or six of the cherries in substance, or an ounce of the expressed juice, are directed for a dose. They are said to be, in some places, eaten, among the common people, by handfuls(*a*), and with good success, against suppressions of urine, and for promoting the expulsion of mucus and gravel. Mr. Ray tells us of a gouty person, who was cured, and kept free from returns of his disorder, by taking eight of these cherries at each change of the moon; and that the operation of the medicine procured a discharge of extremely fetid matter by urine(*b*). The cherries may be dried so as to be pulverable, or the depurated juice inspissated with a gentle heat to the consistence of a rob or extract, and in this state preserved for use.

· A L L I A R I A.

ALLIARIA Pharm. Edinb. C. B. Hesperis allium redolens Tourn. SAUCE-ALONE, or jack-by-the-hedge: a plant, with roundish, or heart-shaped, slightly indented leaves; and firm upright stalks; on the tops of which, and in the bosoms of the leaves, come forth clusters of tetrapetalous white flowers; followed by oblong bivalvous pods, full of black seeds. It is biennial, grows wild in hedges, and flowers in April and May.

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(*a*) Casp. Hoffmann, *de medicament. officinal. lib. ii cap. 217.*

(*b*) Ray, *hist. plant. 681.*

THE leaves of *alliaria* have a moderate acrimony, and a strong flavour greatly resembling that of garlic or onions: they give the same kind of durable taint to the breath, as those roots; and have been used for the same culinary purposes. They lose greatest part of their smell, and a little of their taste, on being moderately dried: after keeping for some months, the taste, as well as smell, seemed to be wholly lost: the leaves, on being chewed, proving merely mucilaginous. The juice, expressed from the fresh leaves, is strongly impregnated with their active matter, but loses greatest part of it on being inspissated to an extract with the gentlest warmth: in its liquid state, duly secured from the air, it may be kept uninjured for many months. On distilling the fresh herb with water, there arises a small portion of essential oil, which tastes and smells exceeding strongly. Great part of the virtue of the plant arises also in evaporation with rectified spirit; an extract, made by this menstruum, having little taste or smell, though the tincture, before the inspissation, has a strong flavour of the *alliaria*. This herb appears, therefore, to differ from garlic, and agree with onions, in the volatility of its active principles.

Alliaria, taken internally in any considerable quantity, frequently excites a sweat, which is impregnated with its smell(*a*): It stands recommended as a very powerful diaphoretic and diuretic, as a deobstruent in asthmatic disorders, and externally as an antiseptic, in gangrenes and putrid ulcers. Boerhaave informs us, that he cured a gangrene of the leg, arising from a neglected fracture and contusion, by applying the leaves of *alliaria* bruised with wine(*a*).

A L L I U M.

ALLIUM Pharm. Lond. & Edinb. Allium sativum C. B.

GARLIC: a plant with long narrow grass-like leaves; among which arises a single straight hollow stalk; bearing on the top a cluster of small white hexapetalous flowers; each of which is followed by a fruit about the size of a pea, full of dark coloured roundish seeds. The roots are of the bulbous kind, of an irregularly roundish shape, with several fibres at the bottom: each root is composed of a number of smaller bulbs, called *cloves* of garlic, inclosed in one common membranous

(*a*) Boerhaave, *hist. plant. Lugd. Bat.* 437.

membranous coat. --- It is said to grow wild in Sicily: with us, it is raised in gardens, from seed, for culinary as well as medicinal uses.

THE roots of garlic have a penetrating highly acrimonious taste, and a strong, offensive, diffusive smell. Applied to the skin, they inflame and often vesicate the part. Taken internally, they seem to extend their action, in a short time, through the whole habit; impregnating, with their strong scent, not only the breath, but the urine, the milk of the breast or of the udder, the serum which oozes from sores or issues (*a*), and the fluid which perspires through the skin. The other parts of the plant possess the same qualities, in a lower degree.

Garlic root has been celebrated, by some practical writers, in a variety of disorders; and condemned by others, not only as an offensive, but as a noxious drug. It is certain, that there are many cases, in which it is extremely prejudicial; but that there are many also in which it is of great utility. To warm and stimulate the solids, attenuate thick humours, and resist putrefaction, seem to be its primary virtues. Hence, in hot bilious constitutions, where there is already a degree of irritation, where the juices are thin and acrimonious, or the viscera or intestines unsound, it is apparently improper, and seldom fails to produce headaches, flatulencies, thirst, febrile heats, and inflammatory symptoms in various shapes. In cold sluggish phlegmatic habits, on the other hand, it proves a salutary and powerful corroborant, expectorant, deobstruent, diuretic, and, if the patient is kept warm, sudorific. In loss of appetite, and humoral asthmas, where the stomach or lungs are oppressed by viscid phlegm, this medicine has generally good effects. It has likewise been found serviceable, as a warm strengthener, in the beginning of dropsies, and for preventing a new accumulation of water after evacuation: Sydenham (*b*) relates, that he has known the dropsy cured by the use of garlic alone.

Some have held it in great esteem as an antidote against the contagion of pestilential and other putrid disorders; whence it received the name of *theriaca rusticorum*. It is used also among the common people, slightly boiled in milk, as an anthelmintic; and Hoffmann looks upon it as one of the capital medicines of that class.

E 2

Garlic

(*a*) Bennet, [*Christ. Benedictus*] *tabidorum theatr. exerc. 29, p. 81.*

(*b*) *Traſſat. de hydrope.*

Garlic is sometimes employed externally, in unguents and lotions, as an antiseptic and discutient; and is frequently made an ingredient in the stimulating epithems, applied to the soles of the feet, in the low stage of acute distempers, for raising the pulse and relieving the head. Sydenham assures us^(a), that none of the stimulants operate, in this intention, more powerfully than garlic: he observes, that it sometimes occasions intolerable pain, which may be relieved by a cataplasin of bread and milk.

THIS root loses in drying almost nine parts in fifteen of its weight, without suffering any considerable loss of its taste or smell: hence six grains, dry, may be looked upon as equivalent to fifteen grains of the fresh root.

The fresh root yields, upon expression, about one fourth its quantity of a very viscid glutinous juice; which smells strongly of the garlic, and in good measure retains its scent after being inspissated, by a gentle warmth, to the consistence of an extract.

* Syrupus ex
allio Ph. Lond.

Both the fresh and the dry root give out their virtue to water by warm infusion. A quart of water, poured boiling hot upon a pound of the fresh root cut in slices, and suffered to stand upon it in a close vessel for twelve hours, becomes strongly impregnated with the smell and taste of the garlic. This infusion, with a proper quantity of sugar, makes the syrup of garlic of the shops*.

† Oxymel ex
allio Ph. Lond.

Vinegar and honey excellently coincide with and improve this medicine, as a detergent and deobstruent, in disorders of the breast. A composition of this kind is prepared by infusing an ounce and a half of the fresh root in half a pint of vinegar, and dissolving in the strained liquor, by the heat of a water bath, ten ounces of clarified honey: to cover in some degree the ill smell of the garlic, a little caraway and sweet fennel seeds bruised, two drams of each, are boiled for a short time in the vinegar before the garlic is put in†.

The garlick itself is never to be boiled, either with vinegar or with watery liquors; the virtues of this root residing in an essential oil, which exhales along with the steam of boiling water, leaving, if the decoction be inspissated, an inert mucilaginous extract, which has very little of the taste and nothing of the smell of the garlic. The oil, obtainable by distillation, is of a pale yellowish colour and a thick ropy consistence, in small quantity but of great activity, of an extremely strong smell and a fiery taste: great part of the oil re-
mains

(a) *Epist. de variculis confluent.*

mains dissolved in the distilled water, which is very strongly impregnated with the taste and scent of the garlic.

Rectified spirit of wine, digested on dry garlic root, extracts its virtues more readily and more perfectly than either water or vinegar. With this menstruum, the active matter of the garlic does not easily exhale: the spirit distilled off from the filtered tincture has very little taste or smell of the root, nearly all its virtue remaining in the inspissated extract.

A L N U S.

ALNUS Pharm. Paris. Alnus rotundifolia glutinosa viridis C. B.
ALDER: a tall coniferous tree, common in watery places; with very brittle branches; roundish, crenated, clammy leaves; a rugged blackish brown bark; and reddish wood.

ALL the parts of the alder tree are more or less astringent and bitter. The bark is a strong styptic, and might, doubtless, be applied to the same purposes as the other substances of that class, though at present rarely or never made use of medicinally, unless sometimes among the common people in fomentations and epithems.

Tournefort reports (a), that in the Alpine countries, it is customary to procure a plentiful sweat, by covering the patient all over with bags of alder leaves heated; and that by repetitions of this operation, rheumatisms, and sciaticas, are commonly cured. In this way of application, it is apparently the heat and moisture, and not any peculiar quality of the alder leaves, that is the medicine.

A L O E.

ALOES: a bitter, gummy-resinous, inspissated juice; prepared from the leaves of certain thick fleshy leaved plants of the same name.

I. ALOE SOCOTORINA *Pharm. Lond. Aloe succotrina Ph. Edinb.*
Socotorine aloes; brought from the island Socotora in the Indian ocean, wrapt in skins; obtained from the *aloe socotrina angustifolia spinosa flore purpureo Breyn.* This sort of aloes is of a bright surface, and in some degree pellucid; in the lump, of a yellowish red colour with a purplish cast; when reduced into powder, of a golden colour. It is hard
and

(a) *Hist. des plantes aux environs de Paris.*

and friable in the winter, somewhat pliable in the summer, and softens betwixt the fingers. Its bitter taste is accompanied with an aromatic flavour, but not sufficient to prevent its being disagreeable: the smell is not very unpleasant, and somewhat resembles that of myrrh.

2. ALOE HEPATICA *Pharm. Edinb.* Hepatic, Barbadoes, or common aloes; usually brought from Barbadoes, the best sort in large gourd shells, an inferior kind in pots, and a still worse in casks; extracted from the *aloe C. B.* *Aloe dioscoridis* & *aliorum Sloan jamaic.* This is darker coloured than the foregoing, and not so clear or bright. It is generally drier and more compact; though sometimes, especially the cask sort, quite soft and clammy. Its smell is much stronger and more disagreeable: the taste intensely bitter and nauseous, with little or nothing of the aromatic flavour of the focotorine.

3. ALOE CABALLINA. Caballine or horse aloes; prepared, probably, from the *aloe guineensis caballina vulgari similis sed tota maculata Commel. prælud.* not, as is generally supposed, the feces of the hepatic; the difference not being in purity, but in quality. It is easily distinguished from both the foregoing by its strong rank smell: in other respects it agrees pretty much with the hepatic, and is, not unfrequently, sold in its place. Sometimes it is prepared so pure and bright as scarce to be distinguishable by the eye even from the focotorine, but its offensive smell readily betrays it; and if this also should be dissipated by art, its wanting the aromatic flavour of the finer aloes will be a sufficient criterion.

ALOES is a stimulating cathartic bitter. Taken in sufficient doses to purge effectually, as two scruples or a dram, it occasions commonly a great irritation about the anus, and sometimes a discharge of blood. In smaller doses, as ten or twelve grains, repeated once or twice a day, it not only evacuates the first passages, but attenuates and dissolves viscid humours in the remoter parts, warms the habit, quickens the circulation, and promotes the menstrual and hæmorrhoidal fluxes: its continued use renders the blood sensibly more fluid, as appears on venesection. For a time, in these small doses, it does not act by stool; but at length it produces a gentle looseness, of longer continuance than that occasioned by most other purgatives: hence its utility in habitual costiveness. This stimulating cathartic is particularly adapted to persons of a phlegmatic temperament and
sedentary

sedentary life, to cachectic indispositions, and oppressions of the stomach by viscid crudities contracted from irregularity: in dry bilious habits, it is often injurious, immoderately heating the blood, or inflaming the bowels.

This bitter juice is accounted destructive to worms, (or to the matter which favours their production) whether taken internally, or applied in plasters to the umbilical region. It is powerfully antiseptic; and commonly made an ingredient in tinctures and balsams for cleansing and healing wounds or putrid sores.

Aloes consists of a resinous matter, and a large proportion of a substance called gum. By boiling in water, in the proportion for instance of four ounces to a quart, it nearly all dissolves, except the impurities, into a dark coloured liquor; which, on standing in the cold for a night, deposits the resin to the bottom*, the gummy part continuing dissolved. From this solution (poured off from the precipitated resin, and, if any feculencies appear in it, passed through a strainer) the gum may be recovered in a solid form by evaporation†. The coarser sorts of aloes may be purified from their feculencies, without any separation of the gummy and resinous parts, by straining the solution whilst hot, and setting it directly to evaporate, without suffering it to settle‡.

* *Refina aloes*
Ph. Lond.

† *Gummi*
aloes Pharm.
Lond.

‡ *Aloe lota*
Ph. Edinb.

The hepatic aloes is found to contain more resin and less gum than the socotorine, and this than the caballine. Twelve ounces of caballine aloes yielded two of resin, the same quantity of socotorine three, of hepatic almost four: of gummy extract, the caballine yielded nine ounces, the socotorine somewhat less than nine, the hepatic eight. The watery solution of the gummy part of the socotorine, after the separation of the resin, appeared of a bright brown colour, with a cast of red; that of the caballine, deep reddish brown; of the hepatic, brownish yellow, without any tendency to redness.

The resins of all the sorts, purified by solution in spirit of wine, (for in their settling from the watery decoction of the aloes, the impurities of the juice subside along with them) have little smell: that obtained from the socotorine has scarcely any perceptible taste, that of the hepatic a slight bitterish relish, and that of the caballine a little more of the aloetic flavour. The gummy extracts also are less disagreeable than the crude aloes: the extract of the socotorine has very little smell, and is in taste scarcely unpleasant: that of the hepatic is in smell somewhat stronger, but seems to be in taste rather less ungrateful than the extract of the socotorine: the gum of the caballine

caballine retains a considerable share of the peculiar rank smell of this kind of aloes, but its taste is not much more unpleasant than that of the extracts made from the other two.

The purgative virtue of aloes, contrary to that of most of the other cathartic vegetables, resides chiefly in the gummy part; the resin, though taken in considerable doses (whether divided by testaceous powders, or dissolved in spirit of wine) having little or no cathartic power. Socotorine aloes, which contains more gum than the hepatic; purges more, and with greater irritation: the former therefore is to be preferred where a stimulus is required, as for promoting or exciting the menstrual flux; whilst the latter is better fitted for a common purge. The vulnerary and balsamic virtues, on the other hand, reside principally in the resin; and hence the hepatic, which is more resinous than the socotorine, is found to be more serviceable in external applications. The caballine aloes, on account of its offensive smell, is very rarely made use of, at least under its own name, either internally or externally.

The purgative aloetic gum dissolves, not only in watery, but likewise in spirituous menstrea; and even more readily in proof spirit and in rectified spirit, than in water or wine. When powdered aloes is macerated, or digested in a gentle warmth, with water, with wine, or with vinous spirits largely diluted, the powder softens, and becomes tenacious, and the solution goes on exceeding slowly: hence in making tinctures or solutions of aloes in these kinds of menstrea, it is of advantage to mix with the powder some clean dry sand, which by keeping it divided, promotes the dissolution. With rectified and proof spirits, the aloes does not cohere, but continues powdery till dissolved.

Aloes is sometimes taken by itself, sometimes mixed with saponaceous medicines, warmed with aromatics, acuated with pungent materials, combined with the deobstruent gums, &c. Many of these kinds of compositions have been received as officinals: a pill, for example, composed of equal parts of aloes and scap, with a proper quantity of thin honey*: a powder, of eight parts of aloes, with two of canella alba†; or with one of virginian snakeroot and one of ginger‡: a tincture, made by digesting five ounces of these powders in five || or six ¶ pints of mountain wine: pills of four parts of aloes, two of myrrh, and two § or one † of saffron, made up with syrup of saffron or of orange peel: vinous and spirituous tinctures of the aloes with different proportions of the myrrh and saffron**, &c.

Among

• Pil. aloeticæ
Pharm. Edinb.

Hiera picta
† Pharm. Lond.
‡ Pharm. Edinb.

Tinct. sacra
§ Pharm. Lond.
¶ Pharm. Edinb.

§ Pil. Rusi Pb.
Lond.

† Pil. communes
vulgo Rusi Pb.
Edinb.

** Elixiria
proprietas
varia.

Among different aromatic materials made trial of, cloves seemed the best adapted for alleviating the offensiveness of the aloes: the committee appointed by the London college for reforming their pharmacopœia, made choice of canella alba, on account of its not rendering the medicine so hot as the necessary quantity of the clove itself would do, and yet having so much of the clove flavour, as to cover the aloes in a sufficient degree: some commend the *casia caryophyllata* or clove bark, as having more of the clove flavour than canella alba, and yet not being very hot. --- Where volatile spirits are to be joined, a solution of the aloes in dulcified spirit of sal ammoniac, or in spirit of sal ammoniac made with quicklime, are very elegant preparations, and require little assistance from aromatics to render them supportable to the palate; the offensiveness of the aloes being greatly abated by the spirit, and the pungency of the spirit sheathed by the aloes: the spirit of sal ammoniac made with fixt alkaline salt does not dissolve near so much of the aloes as the two above mentioned.

A L S I N E.

ALSINE Pharm. Edinb. *Alfne media* C. B. *Alfne vulgaris*
five morsus gallinæ J. B. CHICKWEED: a small, creeping, juicy herb; annual, yet common at all times of the year in shady cultivated grounds.

THIS herb was formerly employed in cataplasms against external inflammations; and its expressed juice, or decoction, given also internally, as an aperient, antiscorbutic, antiphlogistic, and as a restorative (that is, perhaps, for abating hectic heats) in atrophies and consumptions. Nor do the virtues ascribed to it appear to be wholly without foundation: experiment discovers, that it is not destitute of active matter, though this matter is so far divided and diluted in the herb, as scarcely to manifest itself till separated from the grosser parts.

The fresh leaves have an herbaceous somewhat saline taste, without any remarkable smell: in distillation, with water or with spirit, they give over nothing. On expression, they yield a large quantity of green coloured turbid juice; which difficulty deposits its feces upon standing, but immediately parts with them on being heated to ebullition, and being now passed through a strainer, looks clear and reddish. The depurated juice, inspissated to the consistence of

an extract, discovers to the taste a cool penetrating saline pungency, which quickly goes off, leaving a slight austerity in the mouth.

A L T H Æ A.

ALTHÆA Pharm. Lond. *Althæa, bismalva, ibiscus* Pharm. Edinb. *Althæa diofcoridis & plinii* C. B. MARSHMALLOW: a soft hoary plant: with oblong undivided leaves; and pale flesh coloured monopetalous flowers, cut deeply into five sections, set in a double cup, the outermost of which is divided into nine parts, the inner into five: the fruit consists of a number of capsules, set in form of a flat disk, containing each a single seed: the roots are long and slender, with several fibres, of a pale yellowish colour on the outside, and white within. --- It grows wild in marshes and other moist places, though frequently cultivated in gardens. It is perennial, and flowers from June to near the end of summer.

ALL the parts of althæa abound with a glutinous juice, of scarcely any smell or particular taste. The dry roots, boiled in water, give out near half their weight of gummy matter; which, on evaporating the aqueous fluid, forms an unctuous, flavourless, yellowish mucilage. The leaves afford scarcely one fourth their weight, and the flowers and seeds still less; though the two latter have been looked upon by some as the most mucilaginous, and accordingly prescribed in less quantity (a) than the other parts of the plant.

Of all the mucilaginous vegetables, marshmallow root is, among us, of the most general use; for obtunding and incrassating acrimonious thin fluids, in tickling coughs from defluxions on the fauces and lungs, in hoarseness, erosions of the stomach and intestines, difficulty and heat of urine; and for lubricating and relaxing the passages in nephritic and calculous complaints.

The root is sometimes given in powder, from a scruple to a dram or two, either by itself, or in conjunction with other materials of similar intention, as gum tragacanth, starch, &c. It is rather too bulky, however, for this form; and may, in most cases, be taken to better advantage in that of an infusion or decoction, sweetened with a little liquorice: an ounce of the dry root is sufficient for a quart or three pints of water, a larger proportion rendering the liquor disagreeably slimy. --- A syrup, made by boiling a pound of the fresh roots

(a) Geoffroy, *mat. med.* iii. 73.

roots in a gallon of water till half the liquor is wasted, pressing out the decoction, and after settling for a night, boiling it down with four pounds of fine sugar till the weight of the whole is six pounds*, * *Syrupus ex althæa Pb. Lond.* is kept in the shops, and employed occasionally in some disorders of the breast, and for sweetening emollient decoctions in nephritic cases.

A L U M E N.

ALUMEN Pharm. Lond. Alumen rupeum Pharm. Edinb.

ALUM: a semitransparent, austere, styptic salt; composed of the vitriolic acid and a certain earth; which earth is either the pure argillaceous, or else contained, in great quantity, in all the argillaceous fossils that have been examined. See *bolus*.

The greatest quantities of this salt are artificially produced from different kinds of minerals, whose nature and composition are little known. A blueish slate found in the hills near Scarborough and in some other parts of England(*a*), and a hard rock of the freestone kind at Tolfa near Rome(*b*), become richly aluminous by calcination, and a bituminous earth near Hall in Saxony, by exposure to the air: this last, if laid in large heaps, grows hot, like the pyritæ, and at length bursts into flame(*c*). There are, in Sweden, ferruginous pyritæ, from which alum as well as vitriol is obtained(*d*): and probably, in all the matrices of this salt, the part, which becomes alum, differs from that which in the pyritæ becomes vitriol, only in the former having an argillaceous earth in the place of the metallic calx of the latter. See *pyrites*.

The alum, produced in the mineral, sometimes shoots upon the surface into fibrous efflorescences, called by the ancients, from their form, *alumen plumosum*; though later times have applied that name to a substance of a very different kind (see *talcum*). The salt is extracted from the earthy matter by elixation with water; and afterwards brought to a crystalline form, by evaporating the solution to a proper pitch, and then setting it to shoot, with the addition of a little alkaline ley or putrefied urine, without which the crystallization does not succeed. Even when the pure earth, separated from alum,

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is

(*a*) Colepreß, *philosopb. transact.* No. 142.

(*b*) Mercatus, *metallibec. armarium* iii. cap. 2.

(*c*) Hoffmann, *observ. physico chym.* lib. iii. obs. 8.

(*d*) Leopold, *relatio de itinere suo suecico*, p. m. 84, & seqq.

is redissolved in the vitriolic acid, the solution will not shoot into perfect crystals, till some alkaline salt, fixt or volatile, is added; this acid seeming not to fully satiate itself with the aluminous earth, and the unsatiated part preventing the crystallization of the rest (a). The alkaline liquor is to be dropt in by degrees, till a white precipitation begins to appear; a mark, that all the redundant acid is now saturated, and that a further addition would decompose more and more, proportionably to its quantity, of the alum itself.

The English alum is colourless, and commonly in large masses; into which it is formed, by melting the crystals over the fire, with the addition of some water, and pouring the fluid matter into wooden tubs, in which it concretes and assumes the figure of the vessel; the Roman is of a reddish hue, and in smaller crystals. The name *rock* or *rock alum* is applied among us to the English, on account of the hardness and size of its masses; and by foreign writers to the Roman, on account of the hard stone or rock from which it is extracted. The Roman is somewhat less styptic and less nauseous than the English, and probably has for its basis a somewhat different kind of earth.

ALUM is a strong astringent; one of the strongest of the substances of that class. It is in common use for external purposes; against relaxations of the uvula; in gargarisms for spongy scorbutic gums; in epithems and collyria for inflammations and defluxions of the eyes; &c. In this last intention, we have scarcely any application more effectual than the coagulum recommended by Riverius, made by agitating the white of an egg with a lump of alum, till it acquires the consistence of an unguent*, which is to be spread on tow, and applied warm to the eyes at bed time; proper evacuations, if the inflammation is considerable, being premised.

* Coagulum
aluminosum
Pharm. Lond.

Internally, it is given in small doses, of half a grain or less, as a mild corroborant; and in larger ones, as ten, fifteen, and sometimes twenty grains, for restraining immoderate hæmorrhagies. These large doses are never advisable, but in profuse and threatening evacuations; as they are apt to nauseate the stomach, occasion tormina, and leave obstinate constipations of the bowels. The first dose or two sometimes purge a little.

It

(a) Marggraf, *mem. de l'acad. des scienc. de Berlin*, ann. 1754.

It has been customary to mix alum, for internal use, with an equal * or with half † its quantity of dragons blood; which serves to disguise the alum, and renders it (especially when the mixture is made by melting them together*) more flow of solution in the stomach, in consequence of which it sits easier and may be given with less inconvenience in considerable doses: this is, perhaps, the only advantage of the addition of dragons blood to alum. Dr. Thompson, in the medical essays published by a society at Edinburgh, vouches for the good effects of this compound in uterine hæmorrhagies; and assures us, that he had never found any medicine so much to be depended on, whether for correcting the too frequent return of the menses or their too great abundance, for stopping the floodings which women with child are subject to, or moderating the flow of the lochia. In violent bleedings, he gave half a dram, of a mixture of equal parts of the two, every half hour; and seldom failed to suppress the discharge before three or four drams had been taken. The success of this medicine in these disorders induced him to prescribe it in the fluor albus, and in this also it had excellent effects.

* Pulvis
helvetii.

† Pulvis stypticus Pb. Ed.

Alum dissolves in about twelve times its weight of water, and on duly evaporating the solution, concretes again into octagonal crystals. The solution changes the colour of the blue flowers of plants, or their juices, to a red or purple, as acids do; and like them also, it coagulates milk and the ferous humours of animals. The whey obtained by boiling a pint of cows milk with two drams of powdered alum ‡, is sometimes given in uterine hæmorrhagies, and recommended also in the diabetes (a), in doses of a quarter of a pint, three or four times a day. This liquor, like other aluminous solutions, is not a little ungrateful: nor does this method of obtaining the solution admit of so much precision, as could be wished for in a medicine of such efficacy, in regard to the dose; a considerable part of the alum being retained in the curd, which tastes rather more strongly aluminous than the whey. The whey may be made more elegant by a proper addition of sugar, and of dried red rose buds.

‡ Serum aluminosum Pb. Lond.

This salt, exposed to the fire, easily liquefies, bubbles up in blisters, emits watery vapours amounting to about one sixth of its weight, and then turns to a light spongy unfusible mass ¶, of a stronger and sharper

¶ Alumen ustum Pb. m. Lond.

sharper taste than the alum was at first. In this state, it is sometimes employed for drying foul ulcers, and consuming proud flesh, which it does with great mildness, but it is said to have an inconvenience of leaving a hardness upon the part.

The calcined or burnt alum, urged with a stronger fire, gives out an acid spirit exactly similar to that obtained by the same means from vitriol: the matter which remains, if the fire has been sufficiently intense, and long continued, is the pure earth of the alum, white, light, and insipid. If any part of the alum still retains its acid, this part may be extracted, by boiling in water, from the pure indissoluble earth.

The earth of alum may be separated also by dissolving the alum in water, and adding a solution of any pure alkaline salt: the liquor grows instantly milky on this addition; and on standing for a little time the aluminous earth falls to the bottom, its acid being absorbed by the alkaline salt. This earth (freed from the saline matter by repeated ablutions with boiling water) dissolves readily in all acids: solutions of it in the nitrous and marine are more styptic and more nauseous than alum itself: solutions of it in vegetable acids, though strongly styptic, are of a milder and less ungrateful kind, and promise to be, in many cases, medicines of no small utility.

A M B R A G R I S E A.

AMBRAGRIS EA Pharm. Edinb. *Succinum griseum.* *Succinum cinereum.* *Ambarum.* AMBERGRIS: a marine bitumen; very light, so as to swim both in water and in rectified spirit of wine; growing soft in a gentle warmth; when warmed, of a fragrant smell; soluble in boiling spirit of wine, from which, if the saturated solution be set in a very cold place, or if a part of the menstruum be exhaled, a proportionable quantity of the ambergris concretes into a whitish unctuous substance.

The greatest quantities of ambergris are met with in the Indian ocean: pieces have likewise been now and then discovered in our own (a) and other northern seas. It is found floating on the surface of the sea, or adhering to rocks, or thrown out upon the shores, and sometimes in the stomachs of large fishes. It is usually in small masses

(a) Charleton, *de animal. append. de fossilib.*

masses (though there are accounts of very large ones, weighing more than an hundred (a) pounds) opaque, rugged, of a greyish or ash colour intermingled with yellowish and blackish specks or veins, of a loose texture, friable in a certain degree like wax, breaking rough and uneven, and frequently containing pieces of shells and other like matters. It is said to be at first soft; and when found in this state, to be often adulterated by incorporating different substances with it; an abuse which may in good measure be distinguished by the appearance and texture of the mass, and with more certainty by its differences from true ambergris in solubility, volatility, and smell.

Ambergris has scarcely any particular taste; and very little smell, unless heated, or much handled; in which circumstances, its smell is very fragrant, and to most people agreeable: set on fire, it smells like burning amber. It softens betwixt the fingers, melts in a small degree of heat into the appearance of oil, and in a strong one proves almost totally volatile. Distilled, it yields an aqueous phlegm, a brown coloured acidulous spirit, a deeper coloured oil, at length a thick balsam, and sometimes a small portion of a concrete salt. The spirit, oil, balsam, and salt, are similar to those obtained by the same treatment from amber: except that the oil is of a more grateful smell.

It dissolves in pure spirit of wine, almost totally, but sparingly, and not without the assistance of a boiling heat. Neumann observes, that pure spirit may be made to take up about one twelfth its own weight of the ambergris: that spirits impregnated with a little essential oil, whether by the addition of the oil itself, or by distillation from oily vegetables, dissolve it more readily than pure spirit: that spirits, drawn over from fixt alkaline salts, extract a deeper tincture, but dissolve no more, than those which have been rectified without that addition: and that the dulcified acid and alkaline spirits have very little effect on it.

Ambergris is, in general, one of the most agreeable of the perfumes, and the least apt to disorder weak constitutions, or such as are liable to be offended by substances of that class. Taken internally, from two or three grains to a scruple, it is accounted a high cordial, corroborant, and antispasmodic; in which light it is prescribed by Riverius in hypochondriacal affections. A solution of it made in a very highly rectified spirit distilled from roses, is recommended by Hoffmann (in his physico-chemical observations) as one of the most effectual

(a) Chevalier, *description de la piece d'ambregis, &c. pesant 182 livres.*

effectual corroborants of the nervous system. The orientals are said to look upon it as an aphrodisiac, and suppose that the frequent use of it contributes to longevity.

* Tinct. seu
essentia ambrae
Pharm. Paris.

† Tinct. seu
essentia regia
Pharm. Paris.

The faculty of Paris directs a tincture to be drawn, by digesting two scruples of ambergris in two ounces of a high rectified spirit impregnated with roses*. They have also a compound tincture made from the same quantity of ambergris, with half as much musk, ten grains of civet, six drops of oil of cinnamon, and four drops of oil of rhodium, digested together in four ounces and a half of a spirit impregnated with roses and orange flowers†. This compound tincture is a very high perfume: a few drops of it give a fine scent to a large proportion of inodorous matters. It is used also for heightening the natural odours of other bodies, as aromatic waters, spirits, &c. the principal secret, for this purpose, consists in adding the perfume so sparingly, that while it heightens and improves the smell of the substance it is joined to, it may not betray its own. The most advantageous way of preparing these kinds of tinctures, in regard to the ambergris, appears to be, to make the spirit boil or simmer with it first, that this ingredient may be completely dissolved before the more soluble ones are added. The vapour, which exhales during the coction, caught and condensed in proper vessels, has little flavour of the ambergris: water, distilled from it in the same manner, proves considerably impregnated with its fragrance.

A M M I.

AMMI. BISHOPSWEEDE: an umbelliferous plant; producing small oblong seeds flat on one side, convex and furrowed on the other. The upper leaves are finely divided; the lower narrow, indented, set in pairs along a middle rib, with an odd one at the end.

I. AMMI VERUM *Pharm. Edinb.* *Ammi alterum semine apii C. B.* *Ammi odore origani J. B.* True bishopsweed; with reddish brown seeds: a native of Egypt, from whence the seeds are sometimes, though rarely, brought to us.

The seeds of the true ammi, when in perfection, are an elegant aromatic carminative; of a warm pungent taste, and a pleasant smell approaching to that of origanum. Distilled with water, they yield a considerable quantity of a yellowish essential oil, containing their whole smell and flavour: the remaining decoction, thus divested of the

the aromatic part of the seed, is unpleasantly bitterish. Spirit of wine appears also to carry off, in its exhalation, the odorous principle of the ammi; an extract made by this menstruum, though very warm and pungent, and seeming to contain the whole taste of the seeds, having little or nothing of their specific smell.

2. AMMI *Pharm. Lond.* *Ammi majus C. B.* *Ammi vulgare majus latioribus foliis semine minus odorato J. B.* Common bishopf-weed; with larger and paler seeds: a native of the southern parts of Europe, and propagating itself plentifully in our gardens by the seeds which fall in autumn.

The seeds of this species are weaker both in smell and taste than those of the preceding; nor does their flavour at all resemble that of origanum. The several preparations of them are proportionably different: the essential oil, and the spirituous extract, are both less grateful and less pungent.

A M M O N I A C U M.

GUMMI AMMONIACUM Pharm. Lond. & Edinb. GUM AMMONIACUM: a concrete gummy-resinous juice; brought from the East Indies; generally in large masses, composed of little lumps or tears, of a milky whiteness: the external parts of the mass are commonly yellowish or brownish, and the white tears change to the same colour on being exposed for some time to the air. Of the plant, from which it is extracted, we have no further knowledge, than what is learnt from the seeds found among the tears; which resemble those of dill (except that they are larger) and apparently belong to a plant of the umbelliferous kind.

Ammoniacum has a strong smell, like that of galbanum, but less ungrateful, and a nauseous sweetish taste which is followed by a bitter one. Its principal virtue is that of resolving obstructions; in which intention, it is frequently made use of in asthmas and difficulty of expectoration, in menstrual suppressions, and cachectic indispositions. In obstructions of the breast, it is accounted the most effectual of the aperient gums: in hysteric cases, some of the others are preferred or joined to it, on account, chiefly, of their more powerful smell. It is most commodiously taken in the form of pills: the dose is a scruple or half a dram, every night or oftener: in larger doses, as a dram,

it generally loosens the belly. Applied externally, it is supposed to disperse hard indolent tumours.

*Gummi ammoniacum collatum *Pharm. Lond.*

It is purified from the seeds, small stones, &c. commonly intermixed among the tears, by softening or dissolving it in a little boiling water, pressing it, whilst hot, through a strainer, and then inspissating it to its former consistence*. For internal use, the larger and finer tears, unpurified, are preferable to the common strained gum; for unless the process be very skilfully managed, it loses in the purification great part of its smell, and not a little of its taste. In the shops, a composition of much inferior virtues has been often sold in the room of strained ammoniacum.

† Lac ammoniaci *Ph. Lond.*

Ammoniacum, triturated with water, dissolves into an emulsion or milky liquor, and in this form acts rather more effectually than in the solid one of a pill. Simple penny-royal water is commonly employed for this purpose, in such proportion, that four spoonfuls (that is, two ounces) of the emulsion contain fifteen grains of the ammoniacum†. Some have dissolved it in vinegar of squills, and thus obtained an expectorant undoubtedly powerful, though not a little unpalatable.

If the milky solutions are kept some time, they deposit a considerable quantity of resinous matter, and become clear. Inspissated, they yield an extract, of no smell, and of only a weak bitterish taste. In distillation, no essential oil is obtained, and the distilled water is but slightly impregnated with the flavour of the ammoniacum. In this respect, ammoniacum differs remarkably from most of the other deobstruent gums, as asafetida, galbanum, and sagapenum, which afford not only a strong distilled water, but an actual oil containing the concentrated flavour of the gums.

Rectified spirit of wine dissolves near one half of ammoniacum into a transparent reddish yellow liquor, which tastes strongly of the gum: the undissolved mucilaginous matter is nearly insipid. On distilling the filtered tincture by a gentle heat, the spirit which comes over has hardly any flavour of the ammoniacum: nevertheless the remaining extract proves weaker, both in smell and taste, than the juice in substance.

A M O M U M V E R U M.

AMOMUM Pharm. Paris. *Amomum racemosum C. B.* *Elettari primum Hort. malabar.* TRUE AMOMUM: a cluster of round fruits,

fruits, or seed vessels, of an oriental plant. Each fruit is about the size of a middling grape; and contains, under a membranous cover, a number of small rough angular seeds, of a blackish brown colour on the outside, and whitish within: the seeds are lodged in three distinct cells, and those in each cell joined closely together, so that the fruit, on being opened, appears to contain only three seeds. Ten or twelve of these capsules stand together, without pedicles, upon a woody stalk about an inch long: each single capsule is surrounded with six leaves set in form of a star; and the part of the stalk, void of fruit, is clothed with leafy scales. --- Of the other parts of the plant, we have no certain account.

The seeds of amomum are a strong and grateful aromatic; of a quick penetrating fragrant smell, somewhat like that of lavender, but more agreeable; and of a very warm pungent taste, approaching to that of camphor. They are said to yield in distillation a large portion of a subtile essential oil. The husks have the same kind of flavour, in a lower degree. These seeds have long been a stranger to this country. They are directed as an ingredient in the theriaca, in which they have been commonly supplied by the seeds of the *amomum vulgare*; and the London college, under the name *amomum*, have now allowed either the *verum* or *vulgare* to be taken indifferently. The college of Edinburgh, while they retained that composition, employed, as a succedaneum to the *amomum*, a spice more approaching to its nature, cloves.

A M O M U M V U L G A R E.

AMOMUM VULGARE, *sison*, Pharm. Edinb. *Sison quod amomum officinis nostris C. B.* *Sium aromaticum sison officinarum Tourn.*

BASTARD STONE PARSLEY: an umbelliferous plant; very much branched; with a firm stalk higher than the branches; deep green, winged, serrated, parsnep-like leaves; upright umbels; and small, narrow, oblong, striated, dark brownish seeds, flat on one side and convex on the other. It grows wild under moist hedges and by the sides of ditches, flowers in June and July, and ripens its seeds in August.

The seeds of the *amomum vulgare* have a light agreeable smell, and a mild warm aromatic taste. They have been sometimes given as carminatives and diuretics, like the other warm seeds, and usually substituted in the shops for those of the *amomum verum*, from which,

however, they are very considerably different, in quality as well as in appearance: they are not near so hot or pungent, nor is their flavour of the same kind.

These seeds, infused in water, give out very little of their virtue: by boiling, their flavour is soon dissipated, and the liquor becomes disagreeably bitterish: in distillation with water, they yield a small portion of a yellowish essential oil, which tastes and smells strongly and agreeably of the seeds.

Rectified spirit readily extracts their virtue, and what is pretty singular, gains from them a green tincture: the spirit, drawn off by distillation from the filtered liquor, brings over with it nothing considerable of the flavour of the seeds: the remaining extract tastes strongly and smells lightly of the amomum, and proves a moderately warm, bitterish, not ungrateful aromatic.

A M Y G D A L A.

ALMOND: an oblong, flattish, white kernel, covered with a thin brownish skin: produced by a tree which resembles the peach in its leaves and flowers, but differs in the fruit; the stone being covered with a dry tough matter, of a disagreeable taste; and the shell, though wrinkled and cavernulous, yet not rugged.

The almond tree is a native of Africa, and cultivated in great plenty in some of the southern parts of Europe. It is now likewise naturalized to our own climate, in which it produces fruit not inferior to that which we receive from abroad. It flowers earlier in the spring than most other trees, though the fruit does not ripen till autumn.

There are two sorts of almonds, one of a soft sweetish taste, the other bitter. The eye distinguishes no difference betwixt the trees which yield the sweet and the bitter sort, nor between the kernels themselves. It is said, that the same trees, which in a wild state bore bitter almonds, have, when cultivated, afforded the sweet kind; and that the sweet, from want of culture, have degenerated into bitter. The almonds we receive from Barbary, where the tree is indigenous, are bitter; whilst those of Europe, and other parts where it is cultivated, are in general sweet.

Great care is requisite in the choice of these kernels, particularly the sweet sort; as they are very apt to become rancid in keeping,
 2 and

and to be preyed on by an insect, which eats out the internal part, leaving the almond to appearance entire.

1. AMYGDALÆ DULCES *Pharm. Lond. & Edinb.* Sweet almonds.

These are, for most purposes, blanched, or freed from the outer thin acrid skin, by steeping them in hot water till it is softened sufficiently to be peeled off.

SWEET almonds, used in food, are difficult of digestion, and afford very little nourishment, unless extremely well comminuted. As medicines, they contribute, on account of their soft unctuous quality, to blunt acrimonious humours in the first passages, and thus, sometimes, give present relief in heart-burns and other like complaints.

On expression, they yield a large quantity, near half their own weight, of oil: which, though it has no particular taste or flavour, is somewhat more agreeable to the palate than oil olive, or most of the other common expressed oils; and hence is employed medicinally, for internal uses, in preference to those oils; for obtunding acrid juices, and softening and relaxing the solids; in tickling coughs, hoarseness, costiveness, nephritic pains, &c.

On boiling almonds in water, a part of their oil separates and is gradually collected on the surface: in digestion with rectified spirit, no separation was observed. Very little of the almond is dissolved either by spirit or by water; the decoctions, made in both menstrua, leaving, on evaporation, only a small portion of a somewhat unctuous sweetish matter.

On triturating the almond with water, the oil unites with the aqueous fluid, by the mediation of the mucilaginous and farinaceous matter of the kernel, into an emulsion or milky liquor: a small quantity of powdery matter remaining undissolved: almonds, that have undergone the strongest action of the press, retain still so much of their oil, as to communicate a milky hue to water.

These liquors participate of the emollient virtues of the oil, and hence are prescribed in the same intentions as the oil itself; particularly in heat of urine and stranguries, whether arising from a spontaneous acrimony of the humours, or the operation of cantharides or other irritating medicines. They are given also as diluents in acute diseases; and in some cases, for supplying, in some degree, the place of animal milk, with which they have a great analogy.

An ounce of almonds forms an emulsion of a due consistence with a quart of water; which is to be gradually poured on, after the almonds

almonds have been first thoroughly pounded. A little sugar or other grateful materials are commonly added, the palatableness of the liquor being a point of some importance, as it is in all cases intended to be drank plentifully. For most of the intentions, in which emulsions are generally given, gum arabic is an useful addition: if the water is heated, to hasten the solution of the gum, it must stand till grown cold before it is poured on the almonds, otherwise the emulsion will be imperfect.

The pure oil of almonds, exposed for a few days, to a heat equal to that of the human body, becomes rancid and acrimonious. Emulsions, on the other hand, on standing for some hours, throw up a white cream to the surface, and the whey-like liquor underneath grows, not rancid, but sour. Hence some ascribe to emulsions an advantage, in inflammatory distempers, above the pure oil, of not being subject to become acrid and irritating by the heat of the body, and tending rather to an anti-inflammatory state. Acids, mixed with emulsions, promote the separation of the oily and serous parts, nearly after the same manner as they do in animal milk.

The pure oil, triturated with a thick mucilage of gum arabic, forms a more permanent emulsion; from which the oil does not separate on standing for some days, though it is still speedily disengaged by acids: one part of gum, made into a mucilage with an equal quantity of water, is sufficient for four parts of the oil. The white or yolk of an egg, and a mixture of syrup with a small quantity of volatile spirit, render the oil also soluble in water, but less perfectly.

Sweet almonds are an useful intermedium for uniting with water substances which of themselves are not miscible with it. Camphor, and the purgative and other resins whether native or prepared by art, triturated with about six times their quantity of almonds, dissolve along with them in water into a milky liquor, and are thus excellently fitted for being taken in a liquid form.

2. AMYGDALÆ AMARÆ *Pb. Lond. & Edinb.* Bitter almonds.

BITTER almonds agree with the sweet in yielding a large quantity of oil, and in being miscible with water into an emulsion. The oil has no perceptible bitterness, and is not in any respect distinguishable from that of the sweet almonds: the college allow, for medicinal use, the oil of either sort to be taken indifferently*. The matter remaining

* O'cum
amygdalinum
Pharm. Lond.
& Edin.

remaining after the expression of the oil, retains all the bitterness, and tastes much stronger than the almond did at first.

Great part of the bitter matter dissolves, by the assistance of heat, both in water and in rectified spirit: and a part arises also with both menstrua in distillation. Spirit seems to extract, and water to elevate, the most. It did not appear that the whole is dissolved or elevated by either, or by the alternate application of both.

Bitter almonds, and emulsions made from them, have been recommended as aperients, resolvents, diuretics, and anthelmintics. They are, doubtless, of some use in the above intentions, but apparently of too dangerous a kind. The almonds in substance, taken freely, occasion sickness and vomiting: to dogs and some other animals, they are poisonous. A simple water, strongly impregnated with their volatile parts by distillation, has been found also poisonous to brutes; and there are instances of cordial spirits flavoured by them being poisonous to man.

It is probable, that the directly noxious matter of the almond is that in which its bitterness and flavour reside; and that the activity of this matter is increased, by its separation from the gross oil and farinaceous substance, by which it was enveloped and obtunded in the kernel itself. The kernels of other fruits, that have any bitterness or particular flavour, appear to be impregnated with a substance of a similar nature to this poisonous principle of bitter almonds.

A N A C A R D I U M.

ANACARDIUM: a moderately large kind of nut; whose kernel is covered by two tough rinds; betwixt which is lodged a fungous substance, containing in its cells an extremely acrid matter, in a liquid state when the nut is fresh, though often by long keeping growing dry. It is the produce of certain large Indian trees, of the class of the *pruniferae* of Ray.

I. *ANACARDIUM* *Pb. Paris.* *Anacardium orientale.* Anacardium or Malacca bean: externally of a shining black colour, of the shape of a heart flattened, with a very thick pedicle occupying almost the whole basis. The tree, which is found only in the East Indies, is called by Ray *arbor indica fructu conoide cortice pulvinato nucleum unicum nullo officulo tectum claudente.*

2. ACAJOU,

M A T E R I A M E D I C A.

2. ACAJOU, *cajous*, *anacardium occidentale*. Occidental anacardium or cashew nut: externally of a greyish or brownish colour, of the shape of a kidney, somewhat convex on one side, and depressed on the other. The tree, a native both of the east and west Indies, is called by Ray *pomisera seu potius prunisera indica, nuce reniformi summo pomo innascente*, the Indian tree bearing a fruit like an apple, with a kidney-shaped nut growing on the top of the apple; or rather with an apple growing between the nut and its pedicle, for the nut, as he observes, is produced first.

THESE nuts have been commended by some as possessing great medicinal virtues, and condemned by others as very dangerous. The kernels appear to have no hurtful quality: they are eaten by the Indians, have a pleasant sweetish taste, yield an insipid oil upon expression, form an emulsion with water, and are apparently of the same nature with sweet almonds. The acrid juice lodged between the rinds is a strong caustic, and is said to be used as such by the Indians, for consuming fungous flesh, and for destroying the sensibility of aching hollow teeth. The juice is recommended by some against tetters, freckles, and other cutaneous deformities; which it removes only by excoriating the part: Geoffroy cautions women to abstain from this cosmetic during menstruation, and relates that he has seen erysipelas break out all over the face from applying it at that period: it is not however clear, whether these effects depended so much on the season of its application, as on the time of its being suffered to continue on the skin.

A N A G A L L I S.

ANAGALLIS Pharm. Paris. *Anagallis flore phæniceo* & *anagallis cæruleo flore* C. B. PIMPERNEL: a low, creeping, juicy plant, resembling chickweed; from which it differs, in the leaves being spotted underneath, and having no pedicles; in the seed vessel not opening at top, but horizontally; in the flowers being, not white, but red or blue. The red flowered pimpernel is called male, and the blue female: they are both annual, grow wild in cornfields and other cultivated grounds, and flower in July; the first is frequent, the other rare.

The leaves of both the pimpernels have hardly any smell; and when chewed in substance, discover little other than an herbaceous taste.

taste. They are not however wholly destitute of medicinal powers: for the expressed juice, on being depurated by settling, and then inspissated to the consistence of an extract, affects the organs of taste with a pungent saline austerity. It appears therefore that these herbs have some claim to the resolvent and detergent virtues ascribed to them by some writers; though neither a decoction or tincture of them, nor their juice in its dilute state, and much less their distilled water, can exert those virtues in any considerable degree. Michaeli and others, who declare that by these preparations they have cured multitudes of maniacal, melancholic, and epileptic cases, have probably been deceived by superficial observation, or attributed, to the efficacy of medicines, the operations of unassisted nature.

A N C H U S A .

ANCHUSA, *Alcanna*, *Pharm. Edinb.* *Anchusa floribus puniceis* C. B. *ALKANET*: a rough hairy perennial plant, with

unbranched procumbent stalks; of the bugloss kind, and differing from the common buglosses chiefly in the red colour of its roots. It grows wild about Montpellier and in the eastern countries, and is cultivated in some of our gardens; but the roots, produced in this climate, are paler coloured than those which we receive from abroad.

The roots of anchusa, when in perfection, are externally of a deep purplish red colour. The red cortical part, separated from the whitish woody pith, imparts a fine deep red to oils, wax, and all unctuous substances, and to rectified spirit of wine. To water, it gives only a dull brownish hue. The spirituous tincture, on being inspissated to the consistence of an extract, changes its fine red to a dark brown. In these general properties, the deep and pale roots agree with one another, and differ from all the rest of the red drugs we know of: it is not, therefore, probable, that the deep colour of the foreign roots is owing, as some have supposed, to the introduction of an extraneous tincture.

Alkanet root has little or no smell, and scarcely any taste: extracts made from it, by water, and by spirit, are bitterish and roughish, but in too low a degree to be regarded as medicines. Its chief use is for colouring oils, plasters, lip-salves, &c. which receive a fine deep red from one fortieth their weight of the root: the consistent unctuous materials are for this purpose to be liquefied in the heat of a water

H

bath,

* Pomatum
rub. Pharm.
Parif.

bath, the powdered anchusa added, the mixture stirred now and then, till sufficiently coloured, and then strained through a linen cloth*.

A N D R O S A C E.

ANDROSACE five acetabulum Pharm. Parif. *Acetabulum marinum* minus Tourn. *Androsaces matthioli*, five fungus *petræus marinus*, five umbilicus marinus J. B. *Cotyledon marina*: A submarine production, found on rocks and on the shells of fishes, about the coasts of Montpellier and elsewhere; consisting of numerous, slender, short, filaments, more or less bent or arched, of a whitish or grey colour, hard and brittle, bearing each upon the top a striated concave body nearly of the figure of an inverted cone.

This substance reduced into powder, is used in France (as we are told by the faculty of Paris in the last edition of their *codex medicamentarius*) for destroying worms, and for dropsies. It does not however seem to have much virtue in either of these intentions; or to differ materially from the coralline, which has also been used, as a vermifuge, with little success: like that marine body, it is apparently of a stony or testaceous nature, impregnated with a little saline matter, which, when fresh, it discovers to the taste. It is remarked of the dried *androsace*, that on being held in the flame of a candle, it yields a dazzling brightness, and this repeatedly for several times (a); a phenomenon which I have observed the coralline also to exhibit.

A N E T H U M.

ANETHUM Pharm. Lond. & Edinb. *Anethum hortense* C. B. DILL: an annual umbelliferous plant, with very finely divided leaves and yellow flowers: producing pale yellowish oval seeds, flattened on one side, marked with three longitudinal striæ on the other, and surrounded about the edges with a leafy margin. It is a native of the warmer climates, cultivated with us in gardens, flowers in July, and in September sheds its seeds, by which the plant is plentifully propagated.

The seeds of dill have a moderately warm pungent taste, and an aromatic smell, but not of the most agreeable kind: they are given as carminatives, to the quantity of a dram at a time, in flatulent colics and

(a) *Art. nat. curios. dec. ii. ann. 2. p. 120.*

and indigestion from a laxity of the organs and viscosity of the humours. The leaves are weaker and less grateful than the seeds; the roots have nothing of their flavour.

Water extracts very little of the virtues of dill seeds by infusion or digestion for many hours. In boiling, their whole flavour exhales along with the watery vapour, and may be collected by distillation: the distilled water, drawn off to the quantity of a gallon from a pound of the seeds*, is kept in the shops, and occasionally made the basis of carminative draughts and juleps. Along with the water arises a considerable portion of essential oil†, in taste moderately pungent, and smelling strongly of the dill: this is given from one to three or four drops or more, as a carminative, and in hiccups.

* Aqua seminum anethi
Pharm. Lond.

† Ol. essent. sem. anethi.
Pharm. Lond.
Edinb.

Rectified spirit, digested on dill seeds, readily extracts both their smell and taste: the colour of the tincture is a bright yellow: the spirit, gently distilled off from the filtered liquor, brings over very little of its flavour, leaving in the extract nearly all the active parts of the dill.

A N G E L I C A.

ANGELICA: a large umbelliferous plant; with hollow, jointed stalks; and indented, oval, pointed leaves, set in pairs along a middle rib with an odd one at the end, containing in their veins a milky juice, which on drying turns yellowish: the ribs of the leaves are channelled on the upper side, and joined to the stalks by large membranous bases or sheaths. The seeds are white or pale coloured, somewhat oval, flat on one side, convex and marked with three longitudinal ridges on the other, surrounded about the edges with a leafy margin. The roots are long and thick, externally of a dark brown colour, internally white and juicy, and when dry of a spongy texture.

1. *ANGELICA SILVESTRIS*: *Angelica sylvestris major* C. B. Wild angelica; with all the leaves alike, except that the odd one at the end is larger than the rest. This species grows wild, in moist grounds, in several parts of England: it is perennial, and flowers in July. All the parts of this plant are similar in quality to those of the following species, but rather weaker, and hence the medicinal use of this is now superseded by the other.

2. *ANGELICA* Pharm. Lond. & Edinb. *Angelica sativa* C. B. Angelica, garden angelica; with the odd leaf at the end of each rib, and generally some of the others also, cut into two or three lobes.

This is found by the sides of rivulets in the mountains of Lapland, and cultivated in gardens in the different parts of Europe for medicinal purposes and for the use of the confectioners. Bohemia and Spain are supposed to produce the best; the college of London directs the roots brought from Spain only to be kept in the shops. Linnæus, however, assures us, that it proves most vigorous on its native northern mountains(*a*). It is naturally a biennial plant; but if the stalks are cut down before they have run to flower, the roots send forth new heads, and may thus be continued for many years. The roots are in greatest perfection in the second spring: they should be thoroughly dried, kept in a very dry place, and frequently aired, otherwise they are apt to grow mouldy, and to be preyed upon by worms.

The roots of angelica are one of the principal aromatics of European growth, though not much regarded in the present practice. They have a fragrant agreeable smell, and a bitterish pungent taste, mixed with a pleasant sweetishness, glowing upon the lips and palate for a long time after they have been chewed. On wounding the fresh root early in the spring, it yields, from the inner part of the bark, an unctuous yellowish odorous juice, which, gently exsiccated, retains its fragrance, and proves an elegant aromatic gummy-resin. On cutting the dry root longitudinally, the resinous matter, in which the virtue and flavour of the angelica resides, appears concreted into little veins(*b*). In this state, it is readily and totally dissolved by rectified spirit, and tinges the menstruum of a bright golden colour: on distilling off the spirit from this solution, very little of the flavour of the angelica arises with it, nearly all the active matter of the root remaining concentrated in the extract. Water gains also from this root a pretty deep yellow colour, but extracts little of its taste or smell: in distillation with water, there arises a small portion of essential oil, of an highly pungent taste, and smelling strongly of the angelica: the remaining decoction, thus divested of the aromatic matter of the root, is nauseously sweetish and subacid.

The other parts of the plant have the same kind of taste and flavour with the roots, but their active principles are far more perishable. The seeds, which come the nearest to the roots, can scarce be kept till the spring after they have been gathered, without the loss of their vegetative power, as well as a diminution of their medicinal virtue: the leaves lose greatest part of their virtue on being barely dried.

(*a*) *Svenska vetensk. acad. handl.* 1754.

(*b*) Grew, *idea of philosophic. hist. of plants*, § 41.

dried. For some purposes, however, they are well adapted: the fresh leaves, as well as the seeds, on being distilled with water, give over to the liquor the whole of their aromatic matter, which in this form proves sufficiently durable: some of the officinal distilled waters are flavoured with these materials, and the committee of the London college report, that after trial of sundry others, for removing the disagreeable flavour which the addition of vinegar communicates to spirituous waters, angelica was found to answer this end the most effectually. The virtue of the seeds, like that of the roots, is extracted very imperfectly by water, and completely by spirit; and though it rises totally in distillation with water, is left by spirit, almost entire, in the inspissated extract: the spirituous tincture is of a bright straw colour, the watery infusion of a dark brown.

The stalks, candied with sugar, make an agreeable sweetmeat.

A N I M E.

ANIME Pharm. Edinb. Refina courbaril. ANIME: a transparent amber coloured resin, exuding from the trunk of a large tree growing in Brazil and New Spain. A finer sort is said to be sometimes brought from the eastern countries; but in the shops, only the American is met with, of different degrees of purity: the small tears are generally the purest; the larger masses being often full of earth, agreeably to Piso's account, that the liquid juice, running down from the tree, sinks into the ground, and is thence afterwards dug up.

Anime has a light pleasant smell, and little or no taste. It is readily friable between the teeth, but on long chewing softens and sticks together. Laid on a red hot iron, it immediately melts, catches flame, and burns quickly away, with a fragrant smell, leaving only a small quantity of whitish ashes. It gives out little or nothing to aqueous liquors, but dissolves entirely in rectified spirit: the solution is of a yellow colour, smells agreeably of the anime, and has a warm pungent bitterish taste. The fragrance of this resin arises totally in distillation with water, and in part with spirit: on distilling with water a large quantity of anime, a small portion of essential oil is obtained.

The Brazilians are said to employ anime in fumigations for pains and aches proceeding from cold; and in liniments or plasters for paralytic complaints, bruises, &c. With us, it is rarely, if ever, made use of for any medicinal purpose.

A N I S U M.

A N I S U M.

ANISUM Pharm. Lond. & Edinb. *Apium anisum dictum semine suaveolente* Tourn. ANISE: a small annual umbelliferous herb; producing roundish striated seeds, flattened on one side and pointed at one end, of a pale colour inclining to green. The upper leaves are divided into fine segments; the lower entire, roundish, and serrated about the edges.

This plant, said to be a native of Egypt, Syria, and other places of the east, is cultivated, for medicinal and culinary uses, in the southern parts of Europe: it is raised also in some of our gardens, but seldom brings its seeds to perfection in this climate. The seeds brought from Spain, which are distinguished from those of other countries by being somewhat smaller, are accounted the best.

Aniseeds have an aromatic smell, and a pleasant warm taste accompanied with a degree of sweetness. They are of common use, as a warm carminative, in flatulent colics, in the gripes to which young children are subject, in flatulent pains and obstructions of the breast, in weakness of the stomach and indigestion, in diarrhœas, and for strengthening the tone of the viscera and intestines in general: they are supposed to be in these intentions the most effectual of the warm seeds. They are sometimes taken in powder, from a scruple to a dram; and in some places entire, candied with sugar.

They totally give out their virtue to rectified spirit, the seeds, after the action of this menstruum, proving inodorous and insipid: the tincture is of a bright lemon colour, and tastes very agreeably. The spirit, distilled off from the filtered tincture, has a light taste of the seeds, but leaves far the greatest part of their virtue behind in the extract, which proves a very pleasant, sweetish, moderately warm, and not very pungent aromatic. In all these preparations, the smell of the aniseeds, to some persons offensive, is in great measure covered by the spirit.

Infused in water, they impart a little of their smell, but scarcely any taste: in distillation they give over the whole of their flavour, the remaining decoction having nothing of the peculiar scent or taste of the aniseeds. Along with the water arises an essential oil*, to the quantity of an ounce or more from three pounds. This oil, in colour yellowish, congeals, even when the air is not sensibly cold, into a butyraceous white concrete. Its smell, which exactly resembles that

*Ol. essentielle
sem. anisi
Ph. Lond. &
Edinb.

that of the aniseeds, is extremely durable and diffusive; its taste milder and less pungent than that of almost any other distilled vegetable oil: twenty drops may be taken for a dose, though common practice rarely goes beyond half that number: It is recommended chiefly in disorders of the breast, and said to be less effectual in flatulencies and colics, than the seeds in substance. Geoffroy observes, that milk, drawn from the breast soon after the oil has been taken, is found impregnated with its smell.

These seeds yield an oil likewise upon expression, of a greenish colour, in taste very grateful, and strongly impregnated with the flavour of the seeds: sixteen ounces, lightly moistened by exposure to the steam of boiling water, are said to afford one ounce. This oil is composed of a gross, insipid, inodorous one, of the same nature with the common expressed oils; and of a part of the essential oil of the seed, on which its flavour depends. On digesting the compound in rectified spirit, the odorous oil is extracted, in distillation with water it is elevated, so as to leave the other by itself inodorous and insipid. The gross oil appears to reside in the kernel of the seed, the essential in the cortical part.

Among the aromatics, of similar intention, that have been tried in composition with aniseeds, those of angelica seem the best adapted to improve their flavour. A spirituous water prepared from a mixture of equal parts of the two (by drawing off a gallon of proof spirit from half a pound of each of the seeds*) is commonly kept in the shops, and proves an elegant carminative cordial.

* Aqua sem.
anisi compo-
sita Ph. Lond.

ANISUM STELLATUM.

ANISUM STELLATUM, seu *sinense* & *philippense*, & *semen badian* Pharm. Paris. *Fœniculum sinense*. *Cardamomum siberyense*. Zingi. INDIAN OR STELLATED ANISE: a fruit or seed vessel; consisting of rusty brown coloured hard wrinkled capsules, half an inch or more in length, joined together by the bases, to the number of six or more, in the form of a star; each of which includes one seed or kernel, externally glossy and of the colour of linseed, internally white. It is the produce of a small tree, growing in Tartary, China, and the Philippine islands, called by Plukenet *euonymo affinis philippinarum insularum*, *anisum spirans*, *nuculas in capsulis stelliformiter congestis proferens*.

The

The capsules or husks of the stellated anise have a fragrant smell, and a sweetish glowing, not fiery, aromatic taste, resembling those of the common aniseeds, or rather of a mixture of aniseeds and fennel-seeds, but stronger, and more agreeable. The seeds are said by some to have neither taste nor smell: of smell they have very little; but in chewing they fill the mouth with an agreeable aromatic flavour, of the same kind with that of the husks, but weaker, and accompanied with a greater sweetness.

The seeds afford, in distillation with water, the largest quantity of essential oil; and the husks, on being treated with spirit, yield the most acrid resinous extract (*a*). The oil is more limpid, and subtile, as well as more fragrant, than that of the common aniseeds (*b*); and the spirituous extract much warmer and more pungent. Infusions of the husks in water, divested of their more volatile parts by evaporation, leave an extract slightly aromatic, amounting to twice the quantity of that obtained by spirit, or half the quantity of the husks themselves (*a*).

These seeds are employed in the eastern countries, and in some parts of Europe, in preference to the common aniseeds, to which they appear, from their sensible qualities, to be superiour. They have not as yet been received in practice among us, and are very rarely to be met with in the shops.

A N T H O R A.

ANTHORA Pharm. Paris. *Antithora.* *Aconitum salutarium*
five *anthora* C. B. YELLOW HELMET FLOWER, COUNTERPOISON

MONKSHOOD, WHOLESOME WOLFSBANE: a plant with divided leaves, and naked flowers consisting of five petals, the uppermost of which is shaped like a hood: each flower is followed by three or more pods, containing wrinkled angular seeds. It is distinguished from the other aconites or wolfsbanes, by the leaves not being glossy, by their being cut quite down to the pedicle, and by the segments being very narrow and of nearly the same width from end to end.

This plant is a native of the Alps and Pyreneans, from whence the dried roots are sometimes brought to us. They are generally of an irregular roundish shape, sometimes a little oblong, of a brown colour on the outside and white within, hard to break but not tough.

The

(*a*) Cartheuser, *fundamenta m. m.* ii. 327.

(*b*) Geoffroy, *m. m.* ii. 470.

The root of anthora has a faint smell, and an acrid bitter taste, constringing the fauces and gullet, accompanied with a kind of nauseous sweetishness. Its medical qualities are doubtful: some (a) look upon it as a safe anthelmintic, an useful alexipharmac in malignant fevers, and even as an antidote to the poisonous aconites, particularly the species called *thora*, from its supposed efficacy against which it is said to have received its name: others (b) ascribe to it virulent qualities, and relate instances of its occasioning vomiting, purging, great disorders of the stomach, heat, thirst, and anxiety. A competency of experiments, to fully determine this point, is as yet wanting: possibly this root, like many others, may be possessed of noxious qualities when fresh, which are in great measure dissipated by drying or long keeping. But as all the salutary effects, that can be rationally expected from this drug, are obtainable from medicines of known innocence; common practice has never received the anthora, and the colleges both of London and Edinburgh have now expunged it from their catalogues of officinals.

A N T I M O N I U M.

ANTIMONIUM Pharm. Lond. Antimonium, stibium, Pharm. Edinb. ANTIMONY: a ponderous brittle mineral, composed of long shining streaks like needles, intermingled with a dark leaden coloured substance; of no manifest taste or smell. It is usually brought into the shops in the form of conical loaves.

There are several mines of antimony in Germany, Hungary, and France, and some likewise in England. It is sometimes found tolerably pure, but more commonly blended with a hard stone or spar, from which the antimony is separated by eliquation. The mineral being broken in pieces, put into earthen pots whose bottoms are perforated with small holes, and a moderate fire applied round the vessels, the antimony melts out, and is received in conical moulds placed underneath. In these, the lighter and more drossy matter rises to the surface, while the purer and more ponderous subsides to the bottom: hence the upper broad part of the loaves is considerably less pure than the lower. The antimony, thus purified, is called *crude*, in distinction from its chemical preparations.

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In

(a) Gesner, *epist.* p. 66 & 142. Geoffroy, *mat. med.* ii. 11.

(b) J. Bauhin, *hist. plant.* p. 94. L'Obel, *adv.* p. 301. Hoffmann, *de medicament. infecur.* §. 30.

In some places, the native mineral has been employed without purification. The masses which have suffered fusion may be readily distinguished, by the form which they receive from that operation; by their being free from any visible stony matter, pieces of which are generally found adhering to the unwrought ore; and by their striæ being larger. The English antimony appears to be, of all the sorts, the most unfit for medicinal use in its native state, as having sometimes an admixture of particles of lead ore, of which I have seen specimens: by fusion, it is purified from the lead as well as from the stony matter, the one as well as the other remaining unmelted.

ANTIMONY was employed by the ancients in collyria against inflammations of the eyes, and for staining the eye-brows black. Its internal use does not seem to have been established till towards the end of the fifteenth century, and even then it was by many looked upon as poisonous. Experience has now fully evinced, that in its crude state, or when duly prepared, it is a medicine of sufficient safety, and of great efficacy in sundry obstinate disorders; and that though some of its preparations are most violently cathartic and emetic, yet even these, by a slight alteration or addition, lose their virulence and become mild.

Antimonial medicines are principally made use of, as alterants; deobstruents, or gentle evacuants; in cutaneous foulnesses not scorbutic; in rheumatic pains and contractions of the limbs (*a*); in leucophlegmatic, cachectic, and catarrhus disorders; in intermittent fevers from obstructions of the viscera, as obstinate quartans; and sometimes for promoting expectoration in variolous, peripneumonic and asthmatic cases: they generally have better effects in cold serous habits, than in hot bilious dispositions. The more active preparations are employed as emetics in apoplectic and maniacal disorders. It is observable, that even the strongest antimonials (the caustic solutions in mineral acids excepted) are given to horses in large quantity, some ounces a day, without any ill effect: in these animals, crude antimony and its preparations seem to operate alike, by promoting perspiration.

The virulent effects, which antimony produces in certain circumstances, have been ascribed by many to its participating of an
arsenical

(*a*) Two remarkable cases of the efficacy of antimony in pains and in inveterate contractions of the limbs, are related by Kunckel in his *laboratorium chymicum*, 3 theil, 32 capit.

arsenical substance (a). But the chemical properties of antimony, alledged in proof of this supposition are by no means characteristic of that poisonous mineral; and its operation in the human body is extremely different. The most violent antimonials are rendered inactive by means which do not lessen the deleterious quality of arsenic; the inactive are rendered violent, by operations in which arsenic would be dissipated; and some act with violence in far less doses than pure arsenic itself.

CRUDE Antimony is properly an ore, or a combination of a particular metal with common sulphur. The metallic part, like that of other sulphureous ores, is separated in its proper form, by roasting the powdered mineral over a gentle fire till the sulphureous fumes cease, and then melting the remaining grey calx with inflammable fluxes*. The flux commonly used for these purposes by the chemists, called from its colour *black flux*, is composed of two parts of crude tartar and one of nitre, ground together, set on fire, and burnt in a covered vessel to a blackish alkaline coal.... The sulphur also may be obtained in its pure state, by digesting the powdered mineral in aqua regis, which dissolves the metallic part, leaving the sulphur in form of a greenish yellow substance: this, purified by sublimation†, appears on all trials the same with pure common brimstone. The proportions of sulphur and metal vary in different antimonies; some sorts seem to hold about two parts of metal to one of sulphur, and others nearly equal parts of each.

* Regulus antimonii.

† Sulphur antimonii verum.

The pure metal, called *regulus* of antimony, is of a bright white colour, a plated or leafy texture, very brittle, nearly seven times specifically heavier than water. It melts in a low white heat, and if continued in fusion, in an open vessel, gradually exhales in thick whitish fumes, which condense, on the bodies adjacent, into white flowers. Melted with common brimstone, it becomes similar, both in appearance and quality, to crude antimony. Crude antimony, like most other sulphureous ores, is easier of fusion than its pure metal: it melts before it grows red hot, though not before the vessel is considerably so.

It is in this metallic part of antimony, that its proper medicinal powers reside. The pure metal is a medicine of extreme activity: a quantity too minute to be sensible on the tenderest balance, is capable

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of

(a) Neumann, *chym. med. dogmat. experimental.* ii. 339. Hoffmann, *metallurg. morbif.* § 21. Stahl, *mens. Decemb. cap. 3. opusc. p.* 486, 491.

of producing violent effects if given dissolved or in a soluble state. Vegetable acids take up so little of it, that the metal, after a number of infusions, seems to have lost nothing of its weight: these tinctures, nevertheless, prove, in moderate doses, strongly emetic or cathartic; and in very small ones, for the most part diaphoretic. It has been cast into the form of pills, which acted as violent cathartics, without suffering any sensible diminution of weight in their passage through the body, and this repeatedly for a great number of times.

THE activity of this metal is abated by calcination, or by the expulsion of the inflammable principle, which makes a constituent part of this as of other metallic bodies: when thoroughly calcined, it appears entirely inert. Thus, if ground with twice or thrice its weight of nitre, and thrown by little and little into a red hot crucible, it slightly deflagrates, and being now freed from the saline matter by ablution with water, is found changed into a perfect white calx*, which, though taken in doses of a dram or two, is said to have no sensible operation. In this deflagration, a part of the nitre is alkalinized, and a portion of the calx dissolves in the water along with the alkali, as generally happens in the calcination of other metallic bodies with nitre: acids, added to this solution, precipitate the dissolved calx in form of a subtile white powder†, which is equally inactive with the undissolved part. These perfect calces, of themselves fixt and unfusible in the fire, melt with saline additions, as fixt alkaline salt and borax, into a pale yellowish glass, inert (a) as the calces at first.

The precise gradations of activity, between the virulence of the metal in its perfect metallic state, and its indolence in that of a perfect calx, are not well known; but thus much is certain, that it continues extremely active till the calcination is almost complete. When crude antimony is roasted over a gentle fire, till the cessation of the fumes shews the sulphur to be dissipated, the metal remains in form of a greyish-white powder, so far calcined, that on being urged with a strong fire, it melts into a dark yellowish red glass‡, no part of it resuming its metallic form. Nevertheless, both the calx and the glass are very virulent emetics; differing, however, from the metal itself, in this, that their active parts are soon exhausted by repeated infusion in vegetable acids (b), whereas the metal, so far

* Cerussa antimonii.

† Materia perlata.

‡ Vitrum antimonii Pb. Edinb.

(a) Malouin, *chimie medicinale*, part. iv. chap. 50.

(b) Boerhaave, *elem. chem. process.* 210.

far as the experiment has been carried, seemed to lose nothing of its power.

THE activity of the metal is restrained likewise by the combination of sulphur with it. Crude antimony, a natural mixture of it with sulphur, is altogether mild; doses of half a dram, or a dram, for the most part only gently loosening the belly, or promoting insensible perspiration: the greater degree of tenuity the powdered mineral is reduced to, the more considerable, generally, are its effects, and the case appears to be the same in regard to all the antimonials that are not totally dissoluble in the animal fluids.

If a part of the sulphur of the antimony be separated, by such operations as do not calcine the metal, the remaining mass proves proportionably more active. Hence, as different sorts of crude antimony, and different parts of one and the same mass, hold manifestly different proportions of sulphur, it is probable that they vary in degree of activity.

The sulphur of antimony is separated by deflagration with nitre: the greater the quantity of nitre, to a certain point, the more of the sulphur is consumed, and the more does the metal, thus divested of its corrector exert its virulence. An increase of the nitre, beyond the quantity which is sufficient to separate the sulphur, renders the products, contrariwise, milder and milder; by more and more calcining, or destroying the powers of, the metal itself.

Thus, antimony deflagrated with *one eighth* its weight of nitre*, is said to act chiefly, in doses of fifteen or twenty grains, as an alterative or diaphoretic: with *one sixth* its weight, it vomits and purges, for the most part very mildly, in doses of eight or ten grains: with *half* its weight†, it vomits strongly, in the quantity of from one to five or six grains; and with *equal* its own weight‡, it proves, in the same doses, a most violent emetic, operating as it were inexhaustibly, till its whole substance is expelled. All these preparations are of a dark red or yellowish red colour, and hence perhaps their name of crocus or saffron. The three first are taken from the fire as soon as the deflagration ceases: the last, which is the officinal crocus, is kept for some time in fusion, during which a whitish saline scoria rises to the surface, which is separated when the mass grows cold.

* Crocus antimonii medicinalis.

† Crocus antimonii mitior committ. of Lond. col.

‡ Crocus antimonii Pharm. Lond. & Edin. metallorum vulgo: Hepar antimonii quibusdam.

The last of the above proportions of nitre, to wit *equal* the weight of the antimony, seems to be nearly that by which all the sulphur is destroyed.

destroyed, and the metallic part left bare. If the nitre be increased to *twice* the weight of the antimony, the metal itself is so far calcined by it, as to appear, after the deflagration, white; and if now freed from the saline matter by ablution with water, proves so mild*, as to occasion only some light nausea and gentle vomiting, with a large discharge of saliva and thick urine. If the antimony be treated in the same manner with *thrice* its weight of the salt†, it becomes a perfect indolent calx, the same with that obtained by calcining the pure metal with nitre.

* Emeticum-
nite antimon.
Borbaave.

† Calx anti-
monii *Pharm.*
Leod. Anti-
mon. diapho-
reticum *vulgo.*

‡ Nitrum si-
bitum *Ph.*
Edinb. Ano-
dynam mine-
rale *Ph. Brand.*

In this deflagration, a part of the nitre is changed by the sulphur into a neutral salt similar to that prepared from pure sulphur and nitre deflagrated together, that is, to the *nitrum vitriolatum*: this salt may be recovered from the water in which the calx is washed, by filtration, evaporation, and crystallization‡. A part of the nitre becomes likewise an alkaline salt, which, as formerly observed, renders a part of the metallic calx dissoluble: the crystallized salt is found to retain a little of this calx, but cannot be expected to receive from thence any particular virtues.

The sulphur of antimony is separated also by fusion with fixt alkaline salts, which absorb it and form with it a scoria on the surface. On melting five parts of antimony, with one of salt of tartar, and four of sea salt, (which last does not appear to be of any use in the process); a ponderous dark reddish mass is obtained§, which, separated from the scoria, is found to be similar in quality to the crocus prepared with one eighth of nitre; about as much of the sulphur being here absorbed and scorified, as is there burnt off. This preparation is greatly celebrated by Hoffmann and others, in sundry obstinate chronical disorders, and esteemed one of the best antimonials that can be given with safety as alterants: it operates chiefly as a diaphoretic, and sometimes, though rarely, by stool or vomit; the dose is from three or four grains to a scruple.

§ Regulus an-
timonii medi-
cinalis *Pharm.*
Edinb. Febri-
fugum craa-
ni *Ph. Brand.*

If eight parts of antimony, six of tartar, and three of nitre, be mixed together, deflagrated, and brought into fusion, the alkaline salt, resulting from the nitre and tartar, will absorb the whole of the sulphur of the antimony, and the metallic part will fall pure to the bottom. Only a small quantity, however, of the metal separates in this process; for as soon as the alkali and sulphur are combined together, this compound begins to dissolve and scorify the metal, and scorifies more and more of it in proportion to the continuance of
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the fire: if the pure metal be melted with a composition of sulphur and alkali, it is in like manner changed into a scoria.

These alkaline scorïæ dissolve in boiling water; and on adding acids, as spirit of salt, to the filtered solution, the sulphur and metal are precipitated together, in form of a reddish or reddish-yellow powder||. --- A like solution may be obtained by boiling crude anti-
mony in alkaline ley; which, like the alkaline salts brought into fusion by fire, first dissolves the sulphur, and, by the mediation of this, a very considerable part of the metal: the college of Edinburgh directs two pounds of powdered antimony to be boiled in two quarts of soap leys diluted with three pints of water, (the matter being kept stirring with an iron spatula, and fresh water occasionally added to supply that which evaporates) for three hours; and the precipitation to be made by dropping diluted spirit of nitre into the strained liquor whilst hot*: if the solution is suffered to cool, a spontaneous precipitation happens†. --- It is probable, that when the solution is thus procured by boiling in ley, the precipitate will be of more uniform strength, or vary less in the quantity of metal, than when the antimony and alkaline salt have been melted together; and that the precipitate, thrown down by acids, will be less variable than that which is permitted to separate spontaneously. In either case, however, the powder, which falls first, proves darker coloured, contains more of the metal, and operates with more force, than that which subsides afterwards. The using of the nitrous, marine, or vegetable acids, for the precipitation, is indifferent to the medicine; but the vitriolic might occasion a variation; the neutral salt, resulting from the coalition of this acid with the alkali, being less soluble in water, and not easily separable from the precipitate by ablution.--- These precipitates, washed from as much of the adhering saline matter as hot water will dissolve, prove gently emetic, in doses of five or six grains, when taken on an empty stomach. Made into pills with extracts or resins, and taken on a full stomach by a little at a time, they act chiefly as alteratives and deobstruents: with these cautions, I am told, they have been increased to sixteen grains a day, without occasioning any disturbance upwards or downwards.

The alkaline scorïæ of antimony, pulverized whilst hot, and digested for three or four days in rectified spirit of wine, communicate the same colour, taste, and smell, as a mixture of pure sulphur with alkalies. The colleges both of London and Edinburgh judge, (contrary to what some have supposed) that a part of the metal,

|| Sulphur antimonii præcipitatum Ph. Lond.

* Sulph. aurat. antim. Ph. Edinb.

† Kermes mineral. vulg.

* Tinctura
antimonii
Pharm. Lond.

† Tinctura
antimonii
Ph. Edinb.

‡ Regul. an-
tim. martialis.

§ Regul. an-
tim. stellatus.

|| Crocus mar-
tis aperitivus
Stahl.

¶ Crocus mar-
tis astringens
Stahl.

‡ Nitrum
causticum,
Scoria reguli
ant. succinea-

** Tinct. an-
timonii acris
Ph. Brundeb.
Lec.

as well as of the sulphur, is taken up by the spirit: the former direct a tincture to be drawn, with a quart of spirit, from six ounces of powdered antimony melted with twelve of any fixt alkaline salt*; the latter, from four ounces of antimony and six of alkali†. It is said that these tinctures, taken on an empty stomach, have sometimes proved emetic.

The sulphur of antimony is absorbed likewise by most of the metals, most freely by iron. For this purpose, some iron nails, wire, or other like small pieces that may lie loose in the crucible, are heated to a strong red hot, and about twice their quantity, or a little more, of antimony thrown upon them: the sulphur of the antimony immediately acts on the iron, and as sulphur greatly promotes the fusion of that metal, the whole soon melts: a little nitre is then injected, (about one part to six of the antimony) the crucible covered again, and the matter, when brought into thin fusion, poured into a warm greased cone or mortar. The regulus, freed from the sulphureo-ferrugineous scoriæ, is purified by repeated fusion with one sixth or one eighth its weight of fresh nitre, till the nitre no longer receives from it any yellow or amber colour‡: if the regulus discovers, by its dull grey colour, sponginess, hardness, and difficulty of fusion, that it retains much of the iron, a little fresh antimony is injected, whose sulphur, absorbing the iron, hastens the purification. If the metal when poured out be in exceeding thin fusion, and the quantity of scoriæ covering its surface considerable, it generally assumes on the top a radiated star-like efflorescence§.

This regulus, though venerated by some of the chemists, is not materially different from that obtained by simply calcining the antimony, and reviving the calx with inflammable fluxes. --- The scoriæ resulting from the first fusion with iron are little other than a sulphurated iron, scarcely retaining any thing of the metallic part of the antimony: exposed to the air, in a shady place, they fall into a black powder, whose finer parts, washed off with water, and deflagrated with thrice their weight of nitre, are Stahl's aperient crocus||: the grosser part, treated in the same manner, is said to be not aperient, but enormously astringent (a) ¶ --- The amber coloured scoriæ, arising in the purification of the regulus with nitre, are an excessively strong caustic alkali‡: powdered and thrown whilst hot into highly rectified spirit of wine, they impart, by digestion and agitation, a deeper or paler red colour** according as the spirit was more or less oily, together

(a) Stahl, mens. Januar. Opusc p. 523.

together with a penetrating pungency, and, as is supposed, a detergent and diuretic virtue (*a*).

THE metallic part of antimony is corroded by the nitrous and vitriolic acids, and totally dissolved by aqua regia into a caustic liquor. It may likewise be combined with the marine acid into a liquid form, by particular methods of application. If corrosive mercury sublimate (a combination of mercury with the concentrated marine acid) be mixed in powder with half its weight of powdered antimony; the acid of the sublimate begins immediately to act upon the metallic part of the antimony, and fumes, extremely noxious, arise so copiously, that the utmost circumspection is requisite for avoiding them: the mixture being set to distil in a wide necked retort, with a fire cautiously increased, the antimonial regulus arises, combined with the acid into a thick caustic liquor, which congeals, in the neck of the retort, in appearance like ice. This concrete, exposed for some time to the air, imbibes moisture and becomes fluid*: it may likewise be melted down from the neck of the retort by cautiously applying a live coal, and afterwards rendered permanently fluid by distillation in another retort†: when liquefied in the first way, it is somewhat less corrosive than in the other. The use of this butter, as it is called, is for consuming fungous flesh, and the callous lips of ulcers: it acts exceeding quickly, producing an eschar, which, as Boerhaave observes, generally separates the same day it is formed.

The butter, diluted with a large quantity of water, grows milky, and deposits its metal, intimately combined with a portion of the concentrated acid, in form of an exceeding white powder. The powder, repeatedly washed with water, becomes insipid‡, but still retains a portion of the acid, and operates, in the dose of two or three grains, as a most violent and dangerous emetic.

Spirit of nitre dropt into butter of antimony, so long as it occasions any effervescence, forms with the marine acid of the butter an aqua regia, which keeps the metal perfectly dissolved. If this solution be committed to distillation, the marine acid comes over first, and a little of the nitrous after it: the rest of the nitrous acid may be totally expelled from the remaining powder, by calcining it in a crucible for half an hour or more with a strong red heat. Spirit of nitre, poured on the mercurius vitæ, in like manner expels the marine acid, and is itself expelled by fire. The calces thus obtained §,

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* *Causticum
antimoniale
Pharm. Lond.*

† *Butyrum
antimonii
Pharm. Edin.*

‡ *Mercurius
vitæ.*

§ *Bezoardicum
minerales.*

though formerly looked upon as medicines of great virtue, are equally inactive with those, which are more compendiously prepared by deflagrating crude antimony with thrice its weight of nitre.

* Cinnabaris
antimonii
Pharm. Lond.
& Edin.

After the distillation of the butter of antimony, there remains in the retort a black powder, composed of the mercury of the sublimate and the sulphur of the antimony. This, like the ethiops made from mercury and sulphur directly, on being urged with a red heat, sublimes into a cinnabarine mass*, generally darker than the common cinnabar, and somewhat of a needled structure. It has been supposed that this cinnabar participates of the metallic matter of the antimony; but experiment shews that it does not, and that its difference from common cinnabar consists wholly in its containing a larger proportion of sulphur. Common cinnabar, sublimed with a little fresh sulphur, becomes exactly similar to that of antimony; and cinnabar of antimony, sublimed from a little iron filings, or such other substances as may detain its superfluous sulphur, becomes the same with common cinnabar.

† Crocus an-
timonii lotus
Pharm. Lond.

‡ Tartarum
emeticum
Pharm. Lond.

§ Tartarus
emeticus
Ph. Edinb.

Crystals of tartar, boiled in water with the pure regulus, or crocus, or glass of antimony, dissolve a part of the metallic matter, small indeed, but sufficient to communicate a strong medicinal impregnation. The college of London directs half a pound of crocus of antimony (reduced to a subtile powder, and boiled and washed with water till it becomes perfectly insipid†) to be boiled with an equal quantity of crystals of tartar, in three pints of water, for half an hour; the liquor to be filtered, and after due evaporation set by to crystallize‡. The Edinburgh college orders two ounces either of the washed crocus, or powdered glass, and four of creme of tartar, to be boiled in two quarts of water for ten hours; the liquor to be filtered whilst hot, and either crystallized or evaporated to dryness§.

The total evaporation of the fluid appears the best way of securing uniformity of strength to the medicine: for as only a part of the tartar is saturated with the metal, and as the part thus saturated is more soluble than the rest (see *Tartarum*); some of the unsaturated tartar is apt, in crystallization, to shoot by itself.

This preparation is one of the best of the antimonial emetics; as containing the active part of the antimony, made soluble by a mild vegetable acid, which does not, like those of the mineral kingdom, communicate any degree of corrosiveness: the dose is from two or three to six or eight grains. It may be given also as an alterative

or diaphoretic, in doses of a quarter of a grain or half a grain or more; and added, in the quantity of a grain or two, as a stimulus to the milder vegetable cathartics. It is said that casia diminishes the power of this medicine, (see *casia fistularis*).

Most sorts of vinous liquors contain so much acid, as to extract, in a short time, a strong impregnation from the antimonial metal. The college of London directs an ounce of the washed crocus to a pint and a half of mountain*; that of Edinburgh, the same quantity to a pint†. It does not appear, that these or much greater differences in the quantities, affect the strength of the preparation; the same crocus being sufficient to impregnate many fresh portions of liquor. These tinctures have been chiefly used, in the quantity of half an ounce or an ounce, as strong emetics: in small doses, as thirty to sixty drops, they act commonly as diuretics or diaphoretics.

* Vinum antimoniale Ph. Lond.

† Vinum emeticum Pharm. Edinb.

The virulence of some of the antimonials is greatly abated, by intimately mingling them with wax or resins. Powdered glass of antimony, injected into one eighth its weight of melted bees wax, over a gentle fire, and kept constantly stirring for half an hour‡, becomes so mild, that when given from two or three grains to twenty, it occasions for the most part only a few stools, or a slight nausea or sickness, and sometimes produces no sensible evacuation. This preparation has for some time been celebrated in dysenteries: several instances of its good success in these cases are related in the fifth volume of the Edinburgh medical essays.

‡ Vitrum antimonii ceratum Pharm. Edinb.

FROM the foregoing review of the antimonial medicines, it appears, that the several preparations of this mineral (the caustic butter excluded) differ from one another only in degree of activity; and that the greater number must vary in strength, from small and unheeded variations in the manner of preparing them. And indeed, though their real qualities should be always the same, they may nevertheless operate with different degrees of force; from the juices in the first passages, or the food taken during their use, occasioning more or less to be dissolved. Sometimes the milder preparations, and even crude antimony itself, have, from acid foods, proved strongly emetic; and sometimes the more active have lain for a time indolent in the body, and afterwards, on taking the slightest acids, suddenly exerted unexpected violence. Tinctures of the pure metallic part in mild vegetable acids appear to be the most safe and certain of all the antimonials; and capable of being so managed, as

to answer all the salutary purposes that can be rationally expected from any preparation of this mineral; what is effected in the others by rendering the metal more or less soluble, being here obtained, with much less uncertainty, by giving actual solutions of it in larger or smaller doses. Whether the wine, recommended by Huxham, or the tartarous solution, is the most eligible, experience only can determine.

A P A R I N E.

APARINE Pharm. Edinb. Aparine vulgaris C. B. Philanthropus. GOOSEGRASS or CLEAVERS: a slender, rough, annual plant, spreading upon bushes and sticking to whatever it touches; with four-square, brittle, jointed stalks; oblong narrow leaves, set in form of a star, about six at a joint; and small whitish bell shaped flowers, followed by little round burs.

The leaves and stalks of aparine yield upon expression a large quantity of turbid green juice, which when depurated becomes clear and reddish. The leaves in substance have no smell, and very little taste: the juice also, in its dilute state, seems little more than watery and herbaceous; but when inspissated to the consistence of an extract, it affects the organs of taste, strongly, though only momentarily, with a pungent saline bitterness.

The juice of this herb has been given, in doses of two or three ounces, as an aperient in obstructions of the viscera, and as a diuretic in hydropic cases and suppressions of urine. The above analysis shews, that the plant is not destitute of active matter, though the quantity of this matter, in two or three ounces of the juice, is perhaps too small to be productive of any considerable effects.

A P E S.

APES Pharm. Edinb. BEES. This insect, dried and powdered, has been given internally as a diuretic, and applied externally (ground with honey or other like substances) for promoting the growth of hair. Some have slightly calcined the bee, in a close vessel, to blackness, and esteemed it, when thus prepared, to be a medicine, in some cases, of more virtue; a saline matter being now in good measure generated by the fire, though not as yet extricated from the
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other principles. --- For my own part, I have had no experience of the bee itself prepared or unprepared, nor is it used in practice: the valuable products, which this insect affords, honey and wax, will be treated of in their places.

A P I U M.

APIUM, *Eleoselinum*, *Pharm. Edinb.* *Apium palustre* & *apium officinarum* C. B.

SMALLAGE: an umbelliferous plant, with bright green winged leaves, cut slightly into three roundish portions, serrated about the edges: the seeds are small, oval, plano-convex, furrowed, of a pale brownish or ash colour: the root long, about the thickness of the finger, furnished with a number of fibres, of a pale yellowish colour on the outside, and white within. It is biennial; grows wild in rivulets and watery places; and is frequently cultivated in gardens.

A poisonous plant, the *cicuta aquatica* or water hemlock, which grows naturally in the same places with wild smallage, has been sometimes mistaken for it. This may be distinguished, by its leaves being deeply divided, quite to the pedicle, into three long narrow sharp pointed segments; whereas those of smallage are only slightly cut into three roundish obtuse ones.

The fresh roots of smallage are supposed to participate, in some degree, of the ill quality of those of the hemlock kind, and to be particularly hurtful to epileptic persons and pregnant women. They have an unpleasant smell, and a bitterish somewhat acrid taste, weaker than those of the roots of the *cicuta*, but so much of the same kind, as to countenance the suspicion, that the fresh roots of wild smallage may not be entirely innocent. By drying, they lose greatest part of their ill flavour, and become sweetish: the poisonous quality of the *cicuta* also is said to be abated by exsiccation.

The dry roots of smallage have been employed, in apozems, as aperients and diuretics, in conjunction commonly with the other aperient roots. They give out their virtue, together with a pale yellow colour, both to watery and spirituous menstrua. On evaporating the watery infusion, the flavour of the root exhales, and the remaining extract proves unpleasantly sweetish. The spirituous tincture, inspissated, yields an extract, somewhat sweeter and less ungrateful than that made with water, and of a slight warmth or pungency: the smell of the root, which is strong in the watery infusions,

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is in good measure covered by spirit both in the tincture and extract.

The seeds of smallage have been sometimes used as carminatives and aperients, and appear to be possessed of greater virtues than the root. They have a moderately strong grateful smell, and a warm bitterish taste. Infused in water, they impart to it very little of their flavour: distilled with water, they yield a small quantity of essential oil, of a very pungent taste, smelling strongly and agreeably of the seeds: the remaining decoction is unpleasantly bitterish. They give out the whole of their taste and smell to rectified spirit, and tinge the menstruum of a yellowish colour: the spirit, distilled off from the filtered tincture, has very little of the flavour of the seeds: the remaining extract is a moderately warm, pungent, bitterish aromatic.

THIS plant has been greatly improved, by culture, in the southern parts of Europe, and thence received in our gardens under the name of celery, *apium dulce celeri italorum Tourn.* In this state, it is much paler coloured, quite white towards the roots, of a pleasant sweetish somewhat warm taste, without any thing of the ill flavour of the roots and leaves of common smallage. Ray observes, that, if neglected for a few years, it degenerates into smallage again.

The roots of celery lose in drying about two thirds of their weight: the matter which exhales appears to be mere water. The dried roots, digested in rectified spirit, with a heat a little below boiling, soon give out the whole of their active matter, and become insipid. The tincture which is of a yellow colour, deposits, on standing for some weeks, a considerable quantity of truly saccharine white flakes: inspissated, it yields a whitish extract, of a grateful warm aromatic sweetness. An extract made by water is likewise considerably sweet, but has nothing of the aromatic warmth of the spirituous extract.

The seeds of celery are much inferior in aromatic flavour to those of smallage; and the several preparations of them are proportionably weaker and less grateful: the essential oil, in which the taste and flavour are concentrated, is far less pungent than the oil of smallage seeds, and of very little smell. Thus one part of the plant is debased in its quality, in proportion as the other is improved.

AQUA.

A Q U A.

AQUÆ COMMUNES. *Aqua nivalis, pluvialis, fluvialis, fontana.* COMMON WATERS: snow, rain, river, spring waters.

It is needless to observe, how much the purity of waters is conducive to health; and how greatly, though by insensible degrees, the human body must necessarily be affected, by minute quantities of insalubrious matters in this universal diluent, and vehicle of all our aliment.

Among the common tests of the purity of water, the least fallacious are, its being perfectly colourless, transparent, and void of smell and taste; its dissolving soap into a smooth lather; boiling pulse tender; not changing the colour of syrup of violets or the juices of other blue flowers; and its mingling with alkaline and with acid liquors, with solution of sulphur in alkalies, and solution of silver in the nitrous acid, without precipitation or change of transparency. These trials serve to distinguish, in most cases, whether waters contain any considerable quantity of foreign matters, but what the particular matters are they never can discover, different substances exhibiting, in the several experiments, similar phenomena: thus blue juices are changed red by alum as well as by acids, and green by the calcareous marine salt as well as by alkalies.

To determine, with any degree of precision, the contents of waters, a quantity of the water is to be evaporated, in clean glass vessels, with a heat scarcely exceeding that which the hand can support; that the solid contents may be procured by themselves, with as little danger as possible of the extrication or transposition of any of their principles. The dry matter being digested in a little pure distilled water, a saline substance is commonly extracted by the water, and an earthy one is left, no longer dissoluble in aqueous menstrua.

The earthy matter is commonly not one simple earth, but a combination of two or more: 1. *aluminous earth*, distinguished by its dissolving in the vitriolic acid into an austere liquor; 2. *magnesia*, dissolving in the same acid into a bitter liquor; 3. *calcareous earth*, not dissolving at all in the vitriolic acid, but readily in the nitrous and marine, from both which it is precipitated by the vitriolic; 4. *selenites*, not dissoluble in any acid, till strongly calcined in contact with burning fuel, by which process it is reduced to calcareous earth; 5. some of the absolutely *indissoluble* earths, whose particular species,

species, in the small quantities wherein they are obtained in these kinds of experiments, it is difficult and of little importance to determine (see *crystallus* and *talcum*). The two first are rarely met with in the residua of waters; the others are frequent, perhaps universal.

The saline substances are; the mineral fixt alkali, *natron*; the vitriolic acid, combined with this alkali into *sal mirabile*, or with magnesia into *sal catharticus*, or with the aluminous earth into *alum*; the nitrous acid, combined with the alkali into *nitre*(a), or with some of the soluble earths into *nitrous salts*; the marine acid, combined with the alkali into *common salt*, or with soluble earths into *muriatic salts*; or a *volatile alkali* combined with the acids into *ammoniacal salts* (see the respective salts). The common, muriatic and nitrous salts are frequent; nitre, alum, sal mirabile, and ammoniacal salts, very rare.

Most of these salts may, by careful crystallization, be separated in their proper form: they may likewise be distinguished, however blended together, by additions. 1. The fixt alkali, unsaturated, is known, by its raising an effervescence with spirit of salt. 2. The species of acid is distinguished, by adding to the exsiccated mass a little oil of vitriol: if the acid is the marine, it will be expelled in white, and if the nitrous in red, vapours; but if it is the vitriolic, no change will ensue. The marine acid may likewise be known, by the compound enabling pure aqua fortis to dissolve gold leaf, or a mark made with gold on a touchstone; the nitrous, by its deflagrating, when ignited, on the contact of any inflammable matter; the vitriolic, by its producing yellow clouds in a solution of mercury in aqua fortis, and by its precipitating any solution of calcareous earth (as of chalk in aqua fortis) and the precipitate being a selenites, or not dissoluble in fresh aqua fortis. 3. The basis, or substance combined with the acid in the saline compound, is found, by adding to a solution of the matter, a little solution of salt of tartar or any other fixt alkaline salt: if the basis is a fixt alkali, no change will ensue; if an earth, it will precipitate; if a volatile alkali, a pungent smell will discover it.

THE purest of the common waters is that of snow, carefully collected on the tops of mountains, or on an open plain. A gallon, slowly evaporated or distilled, leaves only two or three grains of solid matter. Distilled water itself leaves nearly as much, upon a second, and upon repeated distillations; but with this difference, that

(a) Leigh, *natural hist. of Lancashire*, &c. p. 39.

that the residuum of snow water, like that of all the other natural ones, is brownish and saline; whereas, that of the distilled is a fine white earth, void of saline matter, partly calcareous, and partly indissoluble. Snow water, kept in a warm place, in clean glass vessels, covered from dust, &c. is said in time to grow putrid. I have seen some, which after many years was perfectly clear and tasteless: distilled water suffers no alteration. The saline matter of snow water is commonly of the nitrous kind, composed of the acid of nitre, united with calcareous earth.

The next in purity is rain water, collected with the same precautions as the foregoing, after the rain has continued for some time, so as to clear the air from insects or other light bodies that may float in it. Neither this water nor the preceding discover any heterogeneity on the common trials with acids, alkalies, soap, blue vegetable juices, or metallic solutions, till great part of the aqueous fluid has been separated by evaporation. Evaporated to dryness, it leaves four or five grains of solid matter on the gallon. Its salt is often nitrous, and its earth in great part calcareous.

The water of limpid rivers stands next in purity: and proves, though not equally with the two preceding, yet sufficiently soft, and fit for all the purposes of life. Rivers are for the most part purer and softer than the springs from which they are supplied; at a distance from, than near to the source; when their course is rapid, than when slow.

Of spring waters, there are some, which approach in purity to that of rain; but the greater number are of all waters the hardest and most impure. Some, even of those which the eye and palate judge to be good waters, contain above an hundred grains of solid matter on the gallon. The saline part of these waters is most commonly nitrous (a) or muriatic, that is, composed of the nitrous or marine acids united with earths: on adding to them, by little and little, a solution of any alkaline salt, the liquor becomes turbid and milky, more and more, till the acid, completely neutralized by the alkali, parts with all the earth, which on standing settles to the bottom. The water thus corrected, though really no purer than at first, is found perfectly soft for æconomical uses, and much less, if at all, detrimental to health; its pungent, austere, earthy salt, being now converted into a mild neutral one.

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River

(a) Home, *experiments on bleaching*. Marggraf, *mem. de l'acad. des Scienc. de Berlin*, anno 1751.

M A T E R I A M E D I C A.

River waters generally putrefy sooner than those of springs: during the putrefaction, they throw off a part of their heterogeneous matter, and at length become sweet again and purer than at first. Hard waters are remarkably indisposed to corrupt, and even preserve putrescible substances for a considerable length of time: hence, as Dr. Home observes, they seem to be best fitted for keeping at sea, especially as they are so easily softened by a little alkaline salt.

The purest waters soonest freeze; hence ice is purer than the water that remains unfrozen: on this principle, vinous and some saline liquors may be freed from a part of their superfluous water by gentle congelation. Ice, exposed to the open air, loses of its weight, its superficial parts being dissolved or abraded by the motion of the atmosphere. This property of ice was known to Hippocrates; who, imagining not the ice in its whole substance, but some of its finer and lighter parts to be dissipated, was hence led unjustly to condemn both melted ice and snow as the most impure of all waters.

With regard to the medicinal powers of pure water, little more can be said, than what is too obvious to require being mentioned. Simple fluidity; universal innocence, or the absence of every quality that can offend the tenderest organ; miscibility with all the animal juices, in a state of perfect health, except fat; unfitness to dilute or mingle with them when greatly thickened, as in some diseases; a disposition to pass off by the cutaneous pores, more speedily and more plentifully than by the kidneys, in consequence perhaps of its total want of irritation; make the principal part of its medical character. To which may be added, that it is the most commodious medium for applying to the human body the powerful agents, heat and cold; of which the one expands and relaxes, the other contracts and constricts, all the fluid and soft parts of the animal machine.

A Q U Æ M E D I C I N A L E S.

THE medicinal or mineral waters participate more or less of the earthy and saline substances found in common waters; with generally some prevailing ingredient from which they have received their names.

I. A Q U Æ

1. AQUÆ ALKALINÆ. Alkaline waters, as that of Tilbury.

THE waters of this kind are impregnated chiefly with the mineral alkaline salt, and with calcareous earth; both which readily discover themselves in the residuum left upon evaporation.

The Tilbury water, one of the strongest perhaps of this class, has been found serviceable, not only in complaints arising from acidities in the first passages, but likewise in obstinate alvine fluxes, some cutaneous defecations, female weakneses, and other disorders from a laxity and debility of the fibres: it generally passes off freely by urine or perspiration, and sometimes, on first taking, purges a little. It may be drank to the quantity of a quart a day, or more; cold, or just warmed; by itself, or with the addition, if requisite, of milk, with which it perfectly agrees. It does not bear evaporation, or a boiling heat; soon growing milky, and depositing a part of its earth and virtue. In close vessels, it keeps well: some that had come back from the coast of Guinea, appeared to me unaltered in all its properties.

2. AQUÆ CATHARTICÆ AMARÆ. Bitter purging waters; as those of Kilburn, Epsom, Acton, Dulwich, Northall, &c.

THESE waters are distinguished by their bitter taste; and by their depositing, on the addition of alkaline salt, a copious white earth, great part of which is found to be magnesia. The dry matter, left upon evaporating them, consists of the *sal catharticus amarus*, intermixed with different earths, and often a small proportion of other saline matters. The quantity of salt differs in different waters; some yielding scarcely two, and others ten or twelve drams on the gallon.

These waters are mild and gentle purgatives, operating with sufficient efficacy, yet in general with ease and safety; rarely occasioning any gripes, nausea, or lowness; but, on the contrary, rather strengthening the stomach, and raising the spirits. They may likewise be so managed, as to promote the animal secretions in general, and prove excellent aperients and attenuants in sundry chronical disorders.

The dose of these waters, as a purgative, is from one to three pints, according to their strength, to be drank by a little at a time. Their virtue may be increased, by dissolving in the water some of the purified salt, or other purgative saline substances, as the artificial salt of Glauber, soluble tartar, or manna: additions of this kind

are more eligible than boiling down the water, as its strength is augmented in a more certain ratio, and its natural constitution preserved entire. To render the liquor more acceptable to the palate and stomach, some grateful distilled water, or aromatic tincture, as the *tinctura cardamomi*, may be added: it has been customary to infuse or boil in the water some aromatic seeds, as those of caraway; but very little of the virtue of the seeds is by this treatment extracted. As alterants, the waters may be used for common drink; diluted with simple water, milk, whey, wine, or other liquids, so as but just to keep the belly open.

These waters are found to purge more in their natural state, than after they have been boiled, and than the salt obtainable from an equal quantity of them. They contain, besides the purging salt, no small proportion of calcareous earth. Now, if a solution of calcareous earth, made either in pure water or in acids, be mixed with a solution of the purging salt, and the liquor evaporated; great part of the salt will be destroyed, its acid being transferred from its own earth into the calcareous earth, and forming, with this, a concrete neither purgative nor dissoluble, namely selenites. As such a concrete is found in the dry residua of the purging waters, we may presume, that it owes its origin, as in this experiment, to the destruction of a part of the purgative ingredient; and that the water holds naturally a greater quantity of salt, than can be extracted from it by art.

3. AQUA MARINA. Sea water.

SEA WATER contains, besides the common alimentary salt, a portion of bitter purging salt, similar to that of the foregoing waters, and which remains dissolved after the common salt has crystallized. After the purging salt also has been separated, there remains a small portion of a pungent saline liquor, which refuses to crystallize, and which appears to be a solution of calcareous earth in the marine acid. The quantity of salt in different seas varies, according to the greater or less evaporation, and accession of fresh water, from about one fiftieth to near one twentieth of the weight of the water.

Sea water has lately come into esteem, against strumous swellings and obstructions of the glands, and different cutaneous foulnesses. Dr. Ruffel observes, that in the inflammatory state of glandular swellings it is improper; that where the tumor tends to suppuration, it does no good till the pus is discharged; that in other circumstances it

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is a remedy of great service, whether for resolving the tumor, or preventing a fresh fluxion upon the part; and that it is useful in disorders of the internal glandulous parts, as those of the mesentery, the liver, &c. as well as in those of the external. It has been given also in the true marine scurvy, and found to promote the cure; though incapable of conquering the disease without assistances from the vegetable kingdom.

The dose of sea water is from half a pint to a pint, which may be repeated every morning for some months. In these doses, it gently purges the belly, promotes also the other excretions, and somewhat warms and strengthens the habit: in large ones, it excites vomiting. In many cases, bathing in the water is advantageously joined; both as a general corroborant, and as a topical discutient and antiseptic.

This water, at first taking, is apt to occasion great drought; an inconvenience which is seldom much complained of after its use has been continued for some time, and which may in good measure be palliated by sleeping immediately after it is drank. It is apt likewise, in some constitutions, to produce immoderate heat; and even when used only externally, an uneasiness and itching of the skin: it is therefore to be refrained from in all inflammatory cases, and in habits prone to phlogoses. Among all the common saline bodies, to heat and to dry seem to be qualities peculiar to the marine salt.

4. AQUÆ CHALYBEATÆ. Chalybeate or steel waters; as those of Spa, Pyrmont, Tunbridge, Islington, &c.

THESE waters discover their being impregnated with iron, by striking a blue colour with a solution of fixt alkaline salts that have been calcined with animal-coals, or with a tincture made by digesting the pigment called Prussian blue either in a lixivium of fixt alkaline salt or in volatile alkaline spirits: this last preparation is preferable to the other, as it may be saturated more completely with that matter which tinges dissolved iron blue.

Iron in waters is discovered also by the colour they assume on the addition of certain vegetable astringents, among which powdered galls are the most eligible. This last method of trial, (which is that commonly made use of) distinguishes rather more minute proportions of iron than the first, provided the metal is held in solution by the vitriolic acid: but if dissolved by the other mineral acids, the astringents

gents will give no notice even of the largest proportions, whereas the tincture of Prussian blue discovers it universally.

Chalybeate waters appear to differ from one another, not only in the degree, but in the species, of their impregnation.

Some resemble a solution of vitriol of iron made in common spring water. Like that solution, they strike a blue or black colour with galls, deposite on standing some of their iron in an ochery form, but retain great part of it for a length of time, and yield on evaporation a saline matter, which communicates a ferrugineous impregnation to fresh water, and which appears to be a true vitriol of iron. From some waters, as that of Hartfell in Scotland, the vitriol has been crystallized (*a*) in its proper form.

Others resemble a solution of the same vitriol with an admixture of natron or the mineral fixt alkali salt. Like such a mixture (*b*), they strike, when fresh, a purple colour with galls, deposite the whole of their iron in a very little time, and yield on evaporation, not a vitriol or chalybeate salt, but a salt composed of the acid of vitriol and alkali: some, as that of Geronsterre at Spa, yield also a little pure alkali (*c*), besides what is satiated with acid. It may be observed, that in artificial mixtures of alkalies with solutions of vitriol, or other metallic solutions made in acids, (and possibly something of the same kind may obtain also in the natural), if the vessel is immediately stoppt, so as to have no vacuity after the instant of mixture; the acid and the alkali have no action on one another so long as they are kept confined, that is, so long as the extrication of air, the common concomitant of their mutual action, is prevented: but as soon as the vessel is opened, or the contained air has an opportunity of escaping, the alkali begins to absorb the acid, a sparkling or effervescence ensues greater or less in proportion to the quantities of the two, and the metal, thus divested of its acid solvent, precipitates (*d*).

It is not however to be presumed, that the speedy separation of the ferrugineous matter of waters is owing universally to an alkaline precipitant. Solutions of pure vitriol in pure water deposite a part of their iron spontaneously; and if the solutions be so far diluted, as to strike

(*a*) *Edinb. ess. and obs. phys. & lit.* i. 346.

(*b*) That an alkaline addition is necessary, to make solutions of vitriol strike with galls the purple colour that chalybeate waters do, is a discovery of Mr. Reynolds, *exper. on a chalybeate water near Bromley in Kent.*

(*c*) Ratty, *synops.* 323.

(*d*) A discovery of Mr. Scheffer, *Svenska vetensk. acad. handl.* 1753.

strike with astringents a colour little more than perceptible, they will lose so much in a few hours as to exhibit with the same astringents no tinge at all.

In general, a blue or black colour produced with galls may be looked upon as a mark of the absence of alkaline salt; and a purple, as a mark that either the water originally contained an alkali, or has become alkalescent or verging to putrefaction by standing. On the same principle, a degree of alkalescence, or of tendency to corruption, in common waters, very far too minute to be sensible on any other known trial, may be made conspicuous; *viz.* by the water, when impregnated with a little vitriol, (as two or three grains to a pint) striking a purple colour with galls.

Chalybeate waters, fit for keeping or carriage, should be taken up at the greatest depth in the spring to which we can reach; the full bottle corked under water, afterwards secured with cement, and kept in a cool place; warmth contributing to hasten the decomposition of the mineral contents, as well as to endanger the vessels by the expansion of the fluid. A small addition of any acid prevents the decomposition even of those whose virtues are naturally the most fugitive: it is said, that the chalybeates brought from Germany have commonly this artificial impregnation.

These waters are used, like other chalybeates, in debilities and laxities of the stomach, chylopoietic organs, and of the viscera in general; in decays of constitution; in cachectic, chlorotic, and other like indispositions. See *Ferrum*. Where they pass freely, they are accounted more invigorating than the artificial preparations of iron, and less liable to disorder particular constitutions: many of them however are more apt to fail of taking due effect, on account perhaps of the acid solvent being more disposed to quit the metal. Some of them are rarely observed, and some scarcely ever, to give any black tinge to the feces, though drank in large quantity; a phenomenon which may perhaps be ascribed to their depositing their iron in the first passages in an indissoluble and inactive state, rather than to the cause which some have assigned; their carrying it entire into the blood. They are taken to the quantity of two or three pints or more in a day, divided into different doses; and require the same caution in their use as the artificial chalybeates.

5. AQUÆ CUPRÆ. Cupreous waters; as those of Neusol in Hungary, and Wicklow in Ireland.

THESE waters, which are little other than a solution of vitriol of copper, and those which contain a much smaller proportion of that metal blended with vitriol of iron and other ingredients, betray their cupreous impregnation, by staining a polished iron, immersed in them, of a copper colour, and by striking a blue with volatile alkaline spirits. Some of them have been used, like other venereal solutions, as external detergents. Some, more slightly impregnated with the copper, have been taken internally as emetics, purgatives, and deobstruents; a practice which appears much too hazardous to be followed. See *cuprum*, and its preparations *ærugeo* and *vitriolum cæruleum*.

ALL the mineral waters we know of, are impregnated with more or fewer of the foregoing ingredients, combined in various proportions. The hot waters, called *thermæ* or baths, have not, as such, any peculiar impregnation; their heat depending, not upon an intrinsic, but an external cause: the hot springs of Tœplitz in Germany appear, from Hoffmann's experiments upon them, to be no other than simple water. The waters called sulphureous, or those which have a fetid smell resembling that of sulphureous solutions, are not found to contain any actual sulphur; nor is there any actual sulphur in the extremely fetid and diffusive vapour, which arises from solutions of sulphur itself during their precipitation with acids. Analogous to this, perhaps, is the sulphureous impregnation of waters. The nature and medicinal effects of this subtle volatile principle are little known; the sulphureous waters containing, at the same time, other active ingredients. For the analyses of particular waters, the reader may consider the experimental parts of Dr. Ruty's synopsis.

AQUILEGIA.

AQUILEGIA Pharm. Paris. *Aquileia; aquilina.* *Aquilegia flore simplici* J. B. COLUMBINE: a plant with slender reddish stalks, and bluish green leaves, in shape somewhat roundish, with several slight indentations, and one or two deep ones. The flower, commonly blue, sometimes red or white, consists of five irregular petals,

petala, each of which, with the adjoining leaves of the cup, is supposed to resemble a flying eagle or pigeon (*aquila* or *columba*) whence the names of the plant: the flower is followed by five pods, full of shining black oval seeds. It is perennial, grows wild in woods, and flowers in June.

The seeds of columbine have been greatly commended, in substance and in emulsion, as an aperient in the jaundice, for promoting the eruption of the measles and small pox, and for facilitating delivery. Their sensible qualities afford little foundation for these kinds of virtues, as they do not seem to differ materially from those of the cold seeds so called; the columbine seeds being only somewhat more mucilaginous, and accompanied with somewhat of a disagreeable relish.

The virtues ascribed to a tincture of the flowers, as an antiphlogistic, and for strengthening the gums and detaching scorbutic ulcerations in the mouth, appear to be better founded; the tincture being made with an addition of the vitriolic acid, and differing little from our officinal tincture of roses. The flowers themselves, and the conserve and distilled water of them directed in some foreign pharmacopœias, are insignificant.

A R A N E A R U M T E L Æ.

ARANEARUM TELÆ Pharm. Edinb. COBWEBS. These are applied by the common people for stopping the bleeding of wounds; which they effect, not by any styptic power, but by adhering to the part, and closing the orifices of the vessels.

A R G E N T I N A.

ARGENTINA, potentilla, anserina, Pharm. Edinb. *Pentaphylloides argenteum alatum seu potentilla Tourn.* SILVERWEED OR WILD TANSY: a low creeping plant, with winged leaves, composed of seven or eight pair of oblong indented segments set along a middle rib, with smaller portions between, green above, and covered with a silver-coloured down underneath: the flowers, which rise on long pedicles in the bosoms of the leaves, are composed, each, of five gold-coloured petals with a number of threads in the middle, and followed

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by a small cluster of naked seeds. It is perennial; common by the sides of rivulets and in moist uncultivated places; and flowers in June.

The leaves of *argentina* have been generally looked upon as strong astringents, and recommended as such in fluxes and hæmorrhagies. That they have an astringent quality is manifest to the taste, and from their striking a black colour with solutions of chalybeate vitriol: but in the leaves in substance, whether fresh or dry, and in their infusions, decoctions, and expressed juice, the preparations which have been generally made use of, the astringency is very weak; and even the extracts made from them, by water and by rectified spirit, in which all their active matter is concentrated, are only among the milder styptics or corroborants. The spirituous extract is stronger than the watery, and in proportionably smaller quantity.

A R G E N T U M.

ARGENTUM Pharm. Lond. *Argentum, luna, Pharm. Edinb.*

SILVER: a white metal; becoming yellow, and at length black, from the vapour of sulphureous solutions and of putrefying matters; extremely malleable; near eleven times specifically heavier than water; fusible in a bright red heat; fixt and indestructible in the fire; soluble in the nitrous acid, into a limpid liquor, which stains the solid parts of animals black; not soluble, by moderate digestion, in the marine or vitriolic acid; precipitable by these acids from its solution in the nitrous.

The greatest quantities of this metal are found in the mines of Chili and Peru; commonly in small grains and filaments, embedded in different earths and stones; from which it is separated by comminution, ablution with water, and amalgamation with mercury. Several mines in England, Germany, and other parts of Europe, afford silver; rarely native, or in distinguishable masses; commonly reduced to a state of ore of a red, or of a yellow or brown, or of a dusky leaden or black colour, by an intimate admixture of arsenic, or sulphur, or both; from which it cannot be extracted by quicksilver, but which are dissipated by calcination, so as to leave the silver separable from the remaining earth by fusion.

Crude silver, however comminuted or attenuated, has not been observed to produce any medical effect; though abundance of virtues were ascribed to it by the credulity of former times. It is not soluble in any of the fluids of the animal or vegetable kingdom.

It dissolves, by the assistance of a moderate heat, in about twice its weight of pure aqua fortis: the solution, duly exhaled and set in the cold, crystallizes into thin colourless transparent plates. The crystals, or the dry matter left upon inspissating the solution, melt in a moderate fire, and on cooling form a dark coloured caustic mass*. This preparation is in common use for consuming warts and callosities; but is less fit for such purposes as require a considerable quantity to be applied, as the laying open of imposthumations, being apt to liquefy by the moisture of the skin, and spread beyond the limits in which it is intended to operate. For the greater conveniency of using, it is cast into oblong slender pieces, either in iron pipes heated and greased, or in holes made by some smooth instrument in a lump of tempered tobacco-pipe clay: each piece is wiped clean, and wrapt in dry soft paper. The matter is to be poured out as soon as it flows thin: if kept a little too long in fusion, it becomes too thick to run into the mould, and parts with so much of its acid as not to be sufficiently corrosive: by a longer continuance of the fire, all the acid is gradually dissipated, and a lump of pure silver remains.

* Causticum
lunare Pharm.
Lond. & Edin.

A preparation somewhat less caustic than the foregoing, is recommended internally by Angelus Sala, Boyle, and others, as an anthelmintic, and as a purgative in hydropic and inveterate ulcerous diseases. For this purpose, the crystals of silver are dissolved in water, and mingled with a solution of equal their weight of nitre: this mixture is evaporated to dryness, and the residuum calcined with a gentle heat, just not sufficient to melt it, and kept continually stirring, till no more fumes arise. Boerhaave assures us, that two grains of this preparation, made into pills with crumb of bread and a little sugar†, and taken on an empty stomach (some warm water, sweetened with a little honey, being drank immediately after) purge gently without griping, and bring away a large quantity of water almost without the patients perceiving it. He nevertheless cautions against the too liberal or continued use of this medicine, and observes, that by its corrosive quality it weakens the bowels, particularly the stomach, and that therefore proper corroborants, as rob of juniper berries, ought to be interposed. Even with this assistance, however, it is at best a dangerous medicine, and as such deservedly stands excluded from practice.

† Pilule
lunaris.

ARGENTUM VIVUM.

ARGENTUM VIVUM Pharm. Lond. Hydrargyrus, argentum vivum, mercurius, Pharm. Edinb. MERCURY OR QUICKSILVER: an opaque silver-coloured metallic fluid, appearing to the eye like melted lead or tin; about fourteen times heavier than an equal bulk of water; not congealable by the greatest known degree of natural cold (*a*); totally exhaling, by a heat below ignition, in subtile fumes, which condense into running mercury again.

Quicksilver is sometimes found in the earth in its fluid form, and is then called *virgin* mercury; but for the most part it is intimately blended with sulphur or earthy matters into the state of ore. The sulphureous ores are of a more or less beautiful red colour (see *cinnabaris*): the earthy or stony ones, grey, yellowish, brown, leaden coloured, &c. From these last, the metallic fluid is extracted by simple distillation: the sulphureous require an addition of quicklime, iron filings, or some other substance that may absorb and keep down the sulphur, which otherwise would rise in conjunction with the mercury. The principal mines of quicksilver, of which we have any account, are in Spain, Hungary, and the province of Friuli in the Venetian territories: considerable quantities are brought also from the East Indies.

This fluid, supposed by the Greeks to be poisonous and corrosive, was introduced into medicine by the Arabians, as an ingredient in external applications, against different cutaneous maladies. This practice was followed by some physicians in Europe towards the end of the thirteenth century, but was not established, or looked upon in general to be safe, till about the beginning of the sixteenth, when the venereal distemper, then lately received from America, was found to yield to mercurial applications alone; and now also the internal use of mercury began to be ventured on, in this and in other diseases.

PURE mercury has no perceptible acrimony, or taste, or smell: there are examples of its having been lodged, for years, in cavities
both

(*a*) It is said, that in some late experiments made at Petersburg, with very intense degrees of artificial cold, (produced by mixing snow and spirit of nitre separately brought to great coldness) pure mercury congealed into a silver-like metal, which quickly melted again on an abatement of the cold; and that in Fahrenheit's thermometer, it sunk, before its congelation, to between three and four hundred divisions below 0; that is, about as far below the point at which water freezes, as the heat, in which tin melts, is above it.

both of the bones and of the fleshy parts, without having injured or affected them (*a*). Taken into the stomach in the quantity of an ounce or two, it soon passes through the intestinal tube, unchanged, and unfelt: hence some have been induced to give a pound or more in violent constipations, hoping that this innocent fluid, by its great weight and slipperiness, would force open obstructions, that had resisted the common methods of cure by purgatives, relaxants, and emollients. This practice, so far as I can learn, has not been attended with any remarkable success; the principles, on which mercury has been given in these cases, appear to be erroneous. The slipperiness of this fluid consists only in the mobility of its own parts, not in any power by which it can lubricate the vessels of an animal. Its weight can be of no use unless where the obstruction lies in some descending part of the tube: and even supposing it to act perpendicularly, to the greatest advantage, there is room to fear, that the pressure of a pound or two will rather distend the superiour part of the intestine, than be able to force a passage through the obstinate obstructions against which it is recommended.

WHEN mercury is resolved into fume, or altered in its form by fire, or combined with a small portion of mineral acids, or otherwise divided into minute particles and prevented from reuniting by the interposition of proper substances; it operates with great power, and extends its action through the whole habit. In these forms, whether taken internally, or introduced into the blood from external application, it seems to liquefy all the juices of the body, and may be so managed as to promote excretion through all the excretories. If its power is not restrained, or determined by additions, it tends chiefly to affect the mouth; and having fused the humours in the remoter vessels, occasions a plentiful evacuation of them from the salival glands, with considerable swellings, inflammations, and ulcerations of the parts. The salivation is accompanied with a diminution of most of the other discharges, and an increase of these diminishes the salival flux.

The salutary effects of mercurials have, in many cases, very little dependence on the quantity of sensible evacuation. Venereal maladies, and chronical distempers proceeding from a viscosity of the humours and obstruction of the small vessels, are often successfully cured by mercurials taken in such doses as not to produce any remarkable

(*a*) Mead, *mechanical account of poisons*, essay iv.

able discharge; especially if assisted by diaphoretics and a warm diluent regimen. In this view, camphor, and the resin or extract of guaiacum, are frequently joined to the mercury; and to the more active preparations, a little opium; which not only promotes the diaphoresis, but prevents the mercury from irritating the first passages and running off by the grosser emunctories.

This appears to be, in general, the most advantageous method of using mercurials; excepting, perhaps, only in venereal maladies of long standing, or such as have arisen to a great height, or have affected the bones; which demand, for the most part, a full ptyalism. In these cases, the disease has been subdued for a time by the alterative method, but afterwards broken out afresh, and been completely cured by salivation: and, on the other hand, some cutaneous foulnesses, after resisting salivation, have yielded to an alterative course.

Though mercurials are found to be salutary in sundry cutaneous defecations, and impurities of the blood and juices vulgarly called scorbutic; they are always pernicious in the true scurvy, and dangerous in constitutions inclining to this disease, where the humours are acrimonious, and colliquated, and disposed to a putrescent state. In such circumstances, mercurial medicines are apt to operate with violence: small doses have occasioned high and lasting salivations. The removal of these accidents is to be attempted by glysters, purgatives, diaphoretics, or such other means, consistent with the patients strength and the particular symptoms, as may procure a speedy revulsion from the salival ducts.

A long continued use of mercury is in no case free from danger, as it manifestly colliquates the whole mass of blood, and tends to weaken the nerves, so as to bring on tremors and paralyzes. The miners, and those who are exposed to the fumes of mercury in extracting it from the ore, are said to be almost always, sooner or later, seized with these kinds of complaints; to become generally in a few years paralytic, and at last to die hectic.

Mercurials are destructive to insects, perhaps of every kind. They are sometimes given internally against worms; and sometimes applied externally, in unguents, for destroying cutaneous animalcula. The itch, now reckoned an animalcular disease, is sometimes cured by mercurial unguents; which, nevertheless, cannot be depended on for this effect, unless in slight cases; as their antipsoptic efficacy seems to reach no farther than those parts of the skin to which they are applied,

plied, and as they cannot with safety be applied freely, to any great extent of the body, particularly of the trunk.

Mercury has been of late recommended as an effectual antidote against the poison of the mad dog. Several cases are related, by Dr. James, Default, and Du Choisel, both of brutes and human subjects, bitten by mad dogs, being preserved from the usual consequences of this bite, by mercurial unctions, and mercurials taken internally. There are some instances given also of a cure being obtained, by the same means, after symptoms of madness had appeared (*a*).

THIS fluid dissolves, by the assistance of trituration or heat, most metallic bodies; retaining its own natural colour, but having its consistence increased in proportion to the quantity of the metal: iron is the only one of the common metals, to which it will not easily adhere (*b*). Bismuth unites with it more intimately (*c*) than any other metallic body, and remarkably promotes the union of lead with it: mercury, impregnated with a little bismuth was found to dissolve considerable masses of lead, in a heat no greater than that of the human body. Cases sometimes happen, in which the surgeon may probably avail himself of this property.

From most of the fluid *amalgams* (or mixtures of mercury with metals) great part of the quicksilver may be separated by pressure through leather; but bismuth, and mixtures of bismuth with lead, are so intimately dissolved, as to pass, in considerable quantity, through the leather with it; and hence, with these metals, it has been frequently adulterated. This abuse may be discovered, by the mercury contracting a dull coloured skin upon the surface, or staining paper blackish; by its not running freely into round globules, but forming tears or vermicular striæ; by its leaving, upon evaporating a little of it, a powdery matter or a coloured spot on the bottom of the vessel; and by its producing a turbid milkiness during its dissolution in aqua fortis.

Quicksilver

(*a*) James, *treatise on canine madness*.

(*b*) The other metallic bodies, with which it cannot be united by the usual methods, are *regulus of arsenic*, and two lately discovered metals called *nickel* and *regulus of cobalt*. See Neumann's chemical works, p. 152, &c.

(*c*) Though part of the bismuth separates spontaneously from the mercury, it does not follow, as some have concluded, that the union is imperfect or superficial, but that the mercury can retain only a *certain quantity* of the bismuth; and a certain quantity I have found it to retain after long continued agitation.

* Argent.
viv. purif.
Pharm. Lond.
Hydrarg. ppt.
Ph. Edinb.

Quicksilver is commonly purified from these and other like admixtures, by distilling it in a glass or rather iron retort, (or in an iron pot, with a head made of one piece, the vessel commonly used for this purpose by the refiners) and afterwards washing it with vinegar, or with common salt and water*. The chemists, suspecting that some metallic bodies (*a*) may be carried up by the mercury in distillation, recommend certain additions, particularly sulphur; which, from its rendering the mercury itself less disposed to arise, may be presumed to have this effect in a greater degree on the metals that are naturally not volatile: they sublime the mercury and sulphur together into cinnabar, (which see in the sequel of this article), and adding to this compound some iron filings to absorb the sulphur, distil off the mercury supposed now to be completely pure. Mr. Malouin recommends uniting the quicksilver with crude antimony instead of sulphur, (by leisurely pouring the mercury heated, into an equal quantity of antimony made fluid by fire) and then separating the mercury, as from cinnabar, by distillation with iron: the antimony, he says, by virtue of its reguline parts, detains the other metallic bodies more effectually than sulphur, and the mercury is thus brought to a state of purity even greater than that of the animated mercuries of the alchemists; for the processes, by which they imagined it to be animated or exalted in its powers, appear to have done no more than to purify it to a certain degree. He has not, however, communicated the particular facts on which this assertion is built; or given any experimental proofs of the greater purity of mercury distilled from antimony, than of such as has been revived from factitious cinnabar, or even of such as has been carefully distilled without addition.

QUICKSILVER, triturated with powdery or with thick unctuous matters, is gradually divided, and incorporated with them into one uniform compound, in which no particle of the mercury can be distinguished by the eye. It is most difficultly mixed with earthy powders, most easily with thick balsams.

Killed or extinguished (that is, ground till the mercurial globules disappear), with one twelfth its weight or more of Venice turpentine, or half that quantity of balsam of sulphur, it is mingled with plasters; which, for this purpose, are to be melted, and taken from the fire, before the mercury is stirred in. The college of London directs the mercury, killed with balsam of sulphur, to be mixed with four times
its

(*a*) Boyle, *Of volatility and fixedness*, Abr. i. 377.

its quantity of the common plaster*, or of gum ammoniacum†: that of Edinburgh uses about five parts of a more compounded gum plaster to two of the quicksilver‡. These compositions are applied as resolvents and discutients, against venereal pains, and indurations of the glands; the mercury exerting itself in some degree upon the part, though it is rarely introduced into the blood in such quantity as to affect the mouth. Astruc observes, that even by covering all the limbs with mercurial plasters, the method once practised for raising salivations, it was difficult to obtain a complete and effectual ptyalism (a).

* Emplastr. commune cum mercurio *Pharm. Lond.*

† Emp. ex ammon. c. merc. *Pharm. Lond.*

‡ Emp. mercuriale *Ph. Edinb.*

Substances of less consistence, as ointments, leave the mercury at more liberty to act; and are generally and deservedly preferred to the plasters, in the intention of topical resolvents, &c. as well as in that of conveying the mercury into the habit. A dram of quicksilver mixed with unguents, well rubbed into the skin, and repeated every day, or rather every other day, generally produces, soon after the third application, and sometimes after the second, appearances of inflammation in the mouth, which are followed by a free and copious ptyalism: those employed in rubbing the ointments on others, have been salivated by the mercury imbibed through the palms. The ptyalism raised by unction is often more effectual, and accompanied with fewer inconveniencies, than that produced by mercurials taken internally; which last are apt, in some constitutions, to run off by the intestines, without affecting the salival glands; and in others, to affect the mouth so hastily, as to excite a copious salivation without extending their action sufficiently to the remoter parts. The mercurial ointments are commonly prepared, by rubbing the mercury with lard or other fat matters of a due consistence: three parts of hog's lard, and one of mutton suet, make a commodious basis, with which may be mixed one part or more of mercury§. As a good deal of labour is required for thus uniting the quicksilver with simple fats, some are accustomed to previously extinguish it with a little turpentine || or balsam of sulphur¶, after which it is mixed, more easily, with twice ¶ or four times || its weight of lard: these additions, however particularly the turpentine, are, in this form, accompanied with an inconvenience; being apt, by frequent rubbing, to fret the skin.

§ Ung. mercuriale *Ph. Edinb.*

|| Ung. cærul. mitius *Ph. Lond.*

¶ Ung. cærul. fortius *Ph. Lond.*

Mercury is divided also, with different materials, for internal use, and given, as an alterative and as an anthelmintic, from two or three grains to eight or more. Half a dram of quicksilver is ground, for

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example,

(a) *De morbis venereis, tom. i. lib. ii. cap. 7.*

* Merc. alka-
lizat. *vulgo.*

† Merc. fac-
charat. *Pb.*
Edinb.

‡ Pil. mercu-
rial. *Pharm.*
Edinb.

§ Pil. mercu-
rial. *Pharm.*
Lond.

* Pil. mercu-
rial. laxantes
Pharm. Edin.

example, with two scruples and a half of prepared crabs-eyes*; or with half a dram of brown sugar candy, and two drops of oil of juniper berries†, which last ingredient renders the union of the mercury with the sugar more perfect; or with equal its weight of resin of guaiacum, the same quantity of white soap, and a little common syrup (which is to be added after the quicksilver is united with the others) to make them into a mass‡. Sometimes also purgative materials are joined: in this intention, the above quantity of mercury is commonly killed with twelve grains of Strasburg turpentine, and then beaten up with eight grains of the cathartic extract, and six of powdered rhubarb§: or it is first ground with half its weight of resin of guaiacum, and then with the same quantity of rhubarb and extract of black hellebore*: the pills, called Belloste's, are supposed to be a composition of this kind. Mercury, thus simply divided by these or other like matters, seems to operate more mildly; not only in the first passages, but after it has been received into the blood, than when combined with mineral acids, or reduced by fire into the form of a calx. At the same time, however, it is more uncertain, or more liable to fail of taking full effect; on account, perhaps, of the substances, by which its particles are disunited, being soon subdued and separated by the digestive powers, so as to leave part of the mercury to run together again and pass off inactive through the intestines. How easily the union is dissoluble, may be judged from hence, that when mercury is perfectly mixed with turpentine, if the mixture be beaten up with extracts and powders into a mass for pills, a considerable part of the quicksilver, by this mechanic agitation, is often separated and squeezed out in globules.

*Æthiops mi-
neralis Pb.*
Lond. & Edin.

MERCURY, triturated with equal its weight of sulphur, forms therewith a greyish black powder, which grows darker coloured in keeping or on continuing the triture, and is commonly distinguished by the name of *æthiops*. This compound is one of the mildest of the mercurial preparations; the mercury being far less active in mixture with sulphur, than with any other known species of matter.

The union of the quicksilver with the sulphur, effected by triture (at least by such a degree of triture as the shops are accustomed to bestow upon them) is not intimate any more than that with the substances above mentioned. If the *æthiops* be rubbed on gold, a part of the mercury adheres to the gold so as to make it white:

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on mixture with syrups or other like matters into the consistence of an electary or mass for pills, a part of the mercury is generally spued out. The longer the quicksilver and sulphur are ground together, the less they will be disposed to separate; a circumstance which does not appear to obtain in the mixtures of mercury with resinous or earthy bodies.

A more intimate coalition of mercury and sulphur may be speedily effected, by melting the sulphur over a gentle fire, and gradually stirring into it the quicksilver, with care to cover the vessel if an ebullition or swelling up of the matter shews it ready to catch flame; an accident which sometimes happens when the quantities are large. This compound gives no whiteness to gold, and suffers no separation of its parts on being made into electaries or other forms. Even the acid solvents of mercury are incapable of extracting it when thus combined with sulphur; and the alkaline solvents of sulphur extract only, by long boiling or digestion, so much of that concrete as is more than sufficient to satiate the mercury.

If mixtures of quicksilver and sulphur, thus intimately united by fire, in due proportions, as twenty-five parts of the former to seven of the latter, be powdered and set to sublime; the two ingredients rise together without separation, (except that a part of the sulphur, and generally a very considerable one, burns away in the process), and concrete, in the upper part of the subliming jar, into a red mass called cinnabar or vermilion*. This preparation, though containing much more mercury than the ethiops, does not appear to be more active; and is by many looked upon rather as a medicine of the antispasmodic kind, than as possessing the proper virtues of mercurials. Indeed the real virtues, either of cinnabar or of ethiops, cannot perhaps be precisely assigned.

* Cinnabaris
factitia Ph.
Lond. & Ed.

When mercury is intimately combined with a certain quantity of sulphur, it seems to operate, though given in considerable doses, as a scruple or half a dram of the compound, only in an insensible manner; and in many cases, to pass off inactive through the intestinal tube (a). It may be presumed, that an increase of the sulphur, beyond the quantity sufficient for this perfect satiation of the mercury, will not vary its action; but that a diminution of the sulphur will leave the mercury, or a part of it, in a state of more activity; analogously to what has been before observed to happen in regard to the antimonial regulus. It may be presumed also, that in perfect

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cinnabar

(a) Cartheuser, *rudimenta m. m.* p. 481. Malouin, *chim. medicinale*, part. iv. ch. 34.

cinnabar the mercury is completely saturated; and that in perfect ethiops, it is both saturated, and blended with some redundant sulphur: but that in some cinnabars, it is not saturated, from a deficiency in the quantity of sulphur; and that in some ethiopses it is not saturated, from an imperfection in the mixture. There are examples both of ethiops and cinnabar, (one of which, in regard to the latter, has fallen within my own knowledge) having unexpectedly produced salivations. It should seem, therefore, that the ethiops made by fire is the most to be depended on, or the most certain and equal in its power, (whatever this power may be) of any of the sulphurated mercurials.

When ethiops or cinnabar are thrown on a red hot iron, their fumes are of great activity. The fumes of cinnabar are sometimes directed, not only to be received on the lower parts; but likewise to be taken in with the breath, against venereal ulcerations in the nose, mouth, and throat. Of all the ways of applying mercury, this last requires the greatest caution.

QUICKSILVER, included in a flat-bottomed glass having a small hole open to the air, and kept for several months in a constant heat just not strong enough to make it evaporate, calcines by degrees into a red powder*. A greater heat, sufficient to make the mercury distil, not only does not promote the calcination, but revives such part, as has been already calcined, into running mercury again. A weaker heat, as that of the human body, or even of boiling water, though continued for years, changes only a small part of the mercury into a blackish powder: constant triture or agitation produces similar effects to this low degree of heat, and in a much shorter time (a). If the free access of air should be found to influence the calcination of this, as it does that of the metallic bodies called imperfect, the tedious process might be expedited, by using, for the vessel, a glass tube, with both its ends bent upwards, and one of them considerably higher than the other; through which, a constant stream of fresh air would pass over the surface of the small thread of mercury at the bottom.

The red powder has by some been greatly esteemed in venereal cases, and supposed to be the most effectual and certain of the mercurials. It is accompanied with one considerable inconvenience, being

* Mercurius
calcinatus
Pharm. Lond.

(a) Boerhaave, *Philos. transact.* no. 430, 443, 444, & *Mém. de l'acad. des scienc. de Paris*, pour l'ann. 1734.

being greatly disposed to irritate the first passages, and occasion gripes; to prevent which, a small quantity of opium, and some warm aromatic material, are commonly joined to it: the antivenereal pills of a late celebrated empyric † are supposed to have been a composition of this kind. Even when thus corrected, however, it does not appear, from what I have been able to learn of its effects, to have any advantage above the mercurials in common use and of easier preparation. The dose is from half a grain to two grains: five or six grains are said to vomit and purge violently.

† Misaubin's pills.

The blackish powder, obtained by long agitation, is the basis of an antivenereal medicine ‡, which has lately come into great repute abroad; but which appears, from the accounts published of it in France, to be neither so safe, nor so effectual, as some of the common officinal mercurials.

‡ Keyser's pills.

Pure aqua fortis, assisted by a moderate heat, dissolves equal its weight or more of quicksilver into a limpid corrosive liquor; which, largely diluted with pure water (the common spring waters turning it milky, and precipitating a part of the mercury), has been employed in lotions against some kinds of cutaneous defecations, and where mercurial lotions are adviseable, is perhaps one of the best of them. An ointment is likewise prepared, for venereal ulcers, &c. by mixing the corrosive solution with fats: an ounce of quicksilver is dissolved in two ounces of spirit of nitre, the solution poured hot into a pound of lard melted and just beginning to grow stiff, and the whole briskly stirred till an uniform yellow mixture is procured*.

* Ung. citrinum Pharm. Edinb.

On inspissating the mercurial solution over a gentle fire, there remains a white mass † highly caustic; which, calcined with a gradual heat, becomes first brown, then yellow, and at length, on increasing the heat, of a deep red colour‡. If the aqua fortis, used for the dissolution, has been previously drawn over from a small proportion (the hundred and twenty-eighth part of its own weight) of sea salt§, the red mass || is supposed to assume more readily the sparkling appearance which is looked upon as the characteristic of its goodness. This preparation is employed as an escharotic; and, mixed with ointments and cerates, as a digestive; in which intention, Mr. Sharp observes, that it is very effectual.

† Calx mercurii Pharm. Edinb.

‡ Merc. præcipit. ruber Pharm. Edinb.

§ Aqua fortis comp. Ph. Lond.

|| Merc. corrosiv. ruber Ph. Lond.

Sundry methods have been tried for abating the corrosiveness of this preparation, so far as to render it safe for internal use. One of the most certain seems to be, digesting it two or three days, with a gentle heat, in about thrice its quantity of rectified spirit of

¶ Mercurius
corallinus
Pb. Lond.

* Arcanum
corallinum,
pulvis prin-
cipis, panacea
merc. rubra,
&c.

† Merc. emet.
flav. Pharm.
Lond. Merc.
præcip. flav.
vulgo tur-
peth, minerale
Pharm. Edin.

of wine, then setting fire to the spirit, and keeping the powder constantly stirring till all the spirit is burnt off¶. In this process, the corrosive is deprived of a little of its acid, which is partly perhaps absorbed and dulcified by the spirit during the digestion, and partly dissipated by the heat during the burning. The medicine, nevertheless, is still a very rough one, operating, generally, in doses of a few grains, both upwards and downwards. Different preparations of this kind * have been kept as secrets in particular hands, but it does not appear that any of them are superiour in virtue to some other mercurials of greater safety and more equal power.

IF oil of vitriol be poured on half (or equal) its weight of quicksilver and gradually heated till the liquor boils and distils; the more phlegmatic parts arise, while the stronger acid corrodes the mercury into a white caustic mass. On the affusion of warm water, the mass falls into powder, and becomes immediately yellow; a part of it, satiated with acid, dissolving in the water: the larger the quantity of acid made use of, and the less thoroughly the matter has been exsiccated or calcined, the more of it will dissolve. The yellow powder, ground with fresh quantities of water till all the soluble part is extracted, becomes insipid†, and in this state, commonly called *turpeth* or *turbith mineral*, it proves, though not corrosive, strongly emetic; operating, in this intention, the most effectually of all the mercurials that can be given with safety. It is used chiefly in virulent gonorrhœas, and other venereal cases accompanied with a great flux of humours to the parts: it is said likewise to have been employed with success, in robust constitutions, against leprous disorders, and obstinate glandular obstructions. The dose, as an emetic, is from two grains to six or eight; though some constitutions, habituated to mercurials, can bear larger quantities: I knew an instance of twenty grains producing no sensible evacuation or disturbance. It may be given in smaller doses, as half a grain or a grain, as an alterative, after the same manner as the red calx of mercury already mentioned: and even when intended as an evacuant, it may perhaps, as Malouin observes, be most advisable, to give only a small quantity at a time, as one grain, and repeat this dose every hour till the vomiting succeeds.

THE marine acid has no action on mercury, unless either the mercury be previously dissolved in other acids, or the marine spirit be applied in a very concentrated state and in the form of fume.

On adding a solution of sea salt to a solution of mercury made in aqua fortis, the nitrous acid quits the mercury, and unites with the alkaline basis of the sea salt; and, at the same time, the acid of the sea salt unites with the mercury, and forms with it a compound difficultly and only partially dissoluble, of which, therefore, great part subsides, on standing for some time, in form of a white powder. This powder, washed with fresh quantities of hot water, till the more soluble parts are extracted, becomes nearly insipid*. In this state it is recommended by Boerhaave as one of the best of the mercurials, and said, in doses of three grains, to purge and vomit gently. It appears however too corrosive for internal use; being so much so, as to be employed by the farriers for the purposes of an escharotic. The preparation is likewise a very unfrugal one, a considerable part of the mercury remaining unprecipitated, and a considerable part of the precipitate being dissolved and carried off in the ablution.

* Merc. præcip. alb.
Boerb.

If the dry white mass, obtained by inspissating a solution of mercury in aqua fortis, be powdered and mixed with equal its weight of dried sea salt, the mixture put into a matras or other like vessel, of which it may fill nearly one half, and set in a sand-heat gradually increased; the same transposition of the acids will happen, as in the foregoing case, and nearly all the mercury will now be satiated with the marine acid, and form with it a saline compound, which subliming into the upper part of the matras, concretes into a white crystalline mass called corrosive sublimate†. If the vitriolic acid be used instead of the nitrous, that is, if the unwashed turbith be taken and mixed with sea salt, the event will be the same; the mercury subliming with the acid of the sea salt; while the acid, before combined with it, remains behind united with the sea salt's alkali, forming therewith a *nitrum cubicum* when the nitrous acid has been used, and a *sal catharticus* when the vitriolic. In like manner, if forty parts of quicksilver (rubbed with one part or more of sublimate already made, till it is divided into minute grains) be ground with twenty-eight parts of nitre, then with thirty-three of common salt, and afterwards, for a little time longer, with sixty-six of calcined green vitriol, and the mixture set to sublime; the same compound will be produced‡: † the acids of the nitre and sea salt are extricated by that of the vitriol: ‡ the nitrous acid assists the marine to corrode the mercury: and the mercury, combined with the marine, sublimes, and, if the process

† Merc. sublim. corros.
Pharm. Edinb.

‡ Merc. corros. sublim.
vel alb. Ph.
Lond.

is

is duly conducted, concretes into a crystalline cake, the form in which this compound is expected in the shops.

* Aq. phlegedan. Ph. Edinb.

† Aq. aluminosa Pharm. Edinb.

This preparation, undiluted, is a most violent corrosive. A solution of it in lime-water, in the proportion of a dram to a quart*, and a stronger solution, made by boiling the same quantity of powdered sublimate, with equal its weight of alum, in a pint of common water, till half the liquor is wasted†, are employed for some external purposes, as the cleansing of foul ulcers and suppressing fungosities, and removing obstinate defecations of the skin. The lime-water, like lixivium of fixed alkaline salts, decomposes a part of the sublimate, and hence the impregnation of the liquor cannot be precisely ascertained; for the stronger the lime-water, the more of the sublimate will be decomposed, and the less corrosive will the solution be: at the same time also, the lime in the water changes its nature, by its coalition with the acid which it absorbs from the sublimate. In the aluminous solution, no decomposition happens, both the sublimate and the alum retaining their full force: for on mixing together solutions of the two made separately, no precipitation or turbidness ensued.

Small doses of this corrosive preparation, properly diluted, have been ventured upon internally. Boerhaave relates, that if a grain be dissolved in an ounce of water, and a dram of this solution, softened with syrup of violets, taken twice or thrice a day, it will perform wonders in many reputed incurable distempers. Van Swieten brought it into more general use, for the cure of venereal maladies: he dissolves a grain of the sublimate in two ounces of proof spirit, [rectified spirit dissolves it more perfectly] and gives of this solution from one to two spoonfuls twice a day; continuing the medicine so long as any of the symptoms remain, with a low diet, and plentiful dilution. In the medical observations and inquiries, published by a society of physicians in London, there are many instances of the success of this method: the sublimate operated chiefly by urine and sweat, though sometimes, for the first two or three days, by stool; and appeared not only safe, but more to be depended on, for the removal of the symptoms, than any of the other mercurials used as alteratives. If however it be true, that the completeness of the cure has any dependence on the quantity of mercury introduced into the blood(a); it will follow, that the cure by sublimate must be less complete than that obtained by any other mercurial

(a) Astruc, *De morbis venereis*, tom. I, lib. ii. cap. 12.

mercurial preparation; and that those preparations which can be taken, without disturbance, in considerable doses, as five or six grains or more, promise, in general, the most lasting cures.

CORROSIVE sublimate consists of mercury, united with so much marine acid, as to be dissoluble in boiling water. If, by separating a part of the acid, or adding more mercury, the proportion of acid is rendered so small, as that no part of the compound shall be dissoluble, when finely powdered, by long boiling; its corrosiveness will be destroyed, and it may now be taken with safety in doses of several grains. A little volatile spirit or alkaline ley, dropt into the water after the boiling, will discover if it has taken up any part of the mercury, by turning it cloudy or yellow.

Spirit of sal ammoniac, or other volatile alkalies, dropt into a filtered solution of sublimate, absorb a part of the acid; and the mercury, retaining so little as to be indissoluble, renders the liquor milky, and subsides, on standing, in form of a fine white powder, which, washed by repeated affusions of hot water, becomes insipid*. Solutions of fixt alkaline salts, substituted to the volatile spirit, produce a yellow precipitation: but if an equal weight of crude sal ammoniac be dissolved along with the sublimate, fixt alkalies, added to this solution, extricate the volatile alkali of the sal ammoniac, and the precipitate † proves the same as if the volatile alkali alone had been added in its pure state. These precipitates are used chiefly on account of the elegance of their colour, in unguents for cutaneous eruptions: one part of the mercurial precipitate, three of precipitated sulphur, and eighteen of the simple ointment or pomatum, moistened with a little strong alkaline ley‡, make the common mercurial application for these complaints. The precipitates have been given internally; but *mercurius dulcis*, which differs from them only in being more mild, and more equal and certain in its effects, is in this intention greatly to be preferred. It does not appear, that a combination of mercury with so small a proportion of acid, that is, so mild and safe a mercurial, can be obtained by any kind of precipitation, as by the process by which *mercurius dulcis* is prepared.

Mercurius dulcis is sublimate made mild, by combining with it so much fresh mercury, as is sufficient to satiate the redundant acid. Four parts of powdered sublimate are ground with three of quicksilver (an operation in which great caution is necessary, to avoid the lighter corrosive particles that fly off) till they are thoroughly incorporated;

* Merc. præ-
cip. albus
Ph. Edinb.

† Merc. præ-
cip. albus
Pharm. Lond.

‡ Ung. e
merc. præcip.
Pharm. Lond.

porated; or, which is much more commodious, digested together in a gentle heat, by which the union will be performed as effectually. The mixture is then sublimed in a glass matras or phial; the sublimed white mass freed from the whitish acrid matter about the mouth of the vessel, and from such mercurial globules as may happen to appear distinct, then pulverized, and sublimed again: the college of Edinburgh directs the sublimation to be repeated three or four times, that of London six times*. By repeated sublimations, the medicine becomes less liable to irritate the first passages and run off by stool; on account, perhaps, of some small part of the acid, or some portion of the compound not fully dulcified in the first operation, being separated or dissipated by the heat; the undulcified sublimate being the most volatile.

* Merc. dulcis
subl. Pharm.
Lond. & Edin.
Aquila alba.
Calomelas.

Mercurius dulcis appears to be the best and safest of the mercurial preparations that can be taken in a solid form, whether as a sialagogue or as a general alterant; no one of the mercurials, whose transmission into the blood can be depended on, being so little disposed to affect the first passages. As a sialagogue, fifteen or twenty grains, made into a bolus or pills, are repeated every night or oftener, till the ptyalism begins. As an alterative, it is given from one to two or three grains. It generally answers best in small doses, which may be repeated, with due caution, every evening, for a considerable time, without inconvenience.

Æthiops
antimonialis.

In some obstinate defecations of the skin, mercurials and antimonials, joined together, have frequently better effects than either of them unassisted by the other. Some triturate quicksilver with twice its weight of crude antimony, till the mercurial globules disappear, and the mixture becomes an uniform ethiops or black powder: others, instead of the crude antimony, use the medicinal regulus, or the golden or precipitated sulphur; and thus obtain an ethiops of more activity. The college of Edinburgh has given a prescription of pills on this principle, composed of three parts of quicksilver, two parts of golden sulphur of antimony, and two of resin of guaiacum, with the addition of two of white soap to promote their dissolution in the stomach, and so much common syrup as will reduce them into a mass of a due consistence*: if a dram of the mass is made into twenty pills; the dose may be increased from one to six or more, according to the operation.

* Pil. æthi-
opicæ Pb.
Edinb.

SOME of the mercurial preparations have been said to be oftentimes sophisticated; the cinnabar and red corrosive with red lead, the corrosive sublimate and mercurius dulcis with arsenic. The red lead may be readily discovered by fire; the mercurial part evaporating, while the saturnine remains behind. With regard to the other abuse, some have affirmed it to be impracticable^(a); for if arsenic be mixed with sublimate, and the mixture set to sublime, the marine acid quits the mercury, and unites with the arsenic; with which it composes, not a solid crystalline, but a soft butyraceous concrete, called by the chemists butter of arsenic. If arsenic should nevertheless, in certain circumstances^(b), be combinable with the sublimate into a crystalline cake; and if the pernicious artifice should be ever practised, (the reports of which we presume to be groundless); the well known properties of arsenic afford sufficient means for detecting it. If a compound of sublimate and arsenic be mixed with equal its weight or more of fixt alkaline salt, chalk, or vegetable ashes, and exposed to a moderate heat, the arsenic will sublime into the upper part of the glass, and may now be distinguished by its own proper characters: see *arsenicum*. Some recommend alkaline lixivia as a criterion of this abuse: sublimate that contains arsenic being said to give a black colour with the alkali: on what foundation this should happen, I cannot conjecture; for arsenic strikes no blackness with alkalies either fixt or volatile; solutions of it are, on the contrary, by both alkalies made white.

A R I S T O L O C H I A.

BIRTHWORT: a plant with heart-shaped leaves set alternately on the stalks; in the bosoms of which come forth irregular tubulous flowers, with a wide mouth, whose lower part is produced into a long flap like a tongue: the seed-vessel is large, roundish, and divided into six cells.

1. ARISTOLOCHIA LONGA *Pharm. Lond. & Edinb.* *Aristolochia longa vera C. B.* Long birthwort, with uncut leaves, standing on pedicles; and oblong roots, not tapering to a point, brownish on the outside and yellow within.

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2. ARISTOLOCHIA

(a) Neumann, *Chemical works*, p. 142.

(b) Pott, *De sale communi*, p. 76.

2. ARISTOLOCHIA ROTUNDA *Pharm. Edinb.* *Aristolochia rotunda flore ex purpura nigro C. B.* Round birthwort: with uncut leaves joined immediately to the stalks, and roundish roots.

3. PISTOLOCHIA: *Aristolochia tenuis Pharm. Paris.* *Aristolochia pistolochia dicta C. B.* Bushy birthwort: with indented leaves set on pedicles; and bushy roots, composed of a number of fibres issuing from one head. In this and the foregoing sorts, the stalks are weak and trailing, and the flowers stand solitary.

4. ARISTOLOCHIA TENUIS *Pharm. Lond.* *Aristolochia clematitis recta C. B.* Creeping birthwort: with upright stalks, flowers standing in clusters, and long slender creeping roots rarely exceeding the thickness of a goose quill.

THESE plants are natives of the southern parts of Europe, from whence we are supplied with the dry roots. They bear the colds of our own climate; the third sort excepted, which dies in severe winters. The fourth spreads fast, to a great distance, so as not to be easily extirpated.

ALL the birthwort roots have somewhat of an aromatic smell, and a warm bitterish taste. They are represented by authors, as being extremely hot and pungent: Boerhaave says, they are the hottest of the aromatic plants, and, as it were, burn the tongue and palate, having probably examined the fresh roots: such as are usually met with in the shops, have no great pungency. The long and round sorts, on first chewing, scarce discover any taste, but in a little time prove nauseously bitterish; the round somewhat the most so. The other two instantly fill the mouth with a kind of aromatic bitterness, not very ungrateful.

These roots give out their virtue by infusion both to spirituous and watery menstrua, to the first most perfectly: the colour of all the tinctures is brownish or yellowish. In distillation, pure spirit brings over little or nothing: with water there arises (at least from both the slender rooted sorts) a small portion of essential oil, possessing the smell and flavour of the roots. The extracts made with spirit smell moderately, and taste strongly, of the birthworts: the watery extracts have nothing of their peculiar flavour, and are much more nauseous in taste than either the spirituous extracts, or the roots in substance.

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The birthwort roots are celebrated as warm attenuants and deobstruents, particularly in suppressions of the uterine purgations, from which virtue they are supposed to have received their name: the dose is from a scruple to a dram and upwards. They have likewise been recommended, particularly the fourth sort, as alterants in the gout: Boerhaave observes, that the pituitous gout, as he calls it, is often relieved by an infusion of these roots in spirit of juniper berries, sweetened with sugar, and taken to the quantity of a spoonful at a time; but that in other kinds of the gout, and in subjects of a tender constitution, this medicine occasions a loss of appetite, a weakness of the stomach, and a languidness, less supportable than the gout itself. A powder composed of this and other similar materials, which was prescribed by the ancients as an antiarthritic, and has lately come again into esteem, has also produced complaints of the same kind. Externally, these roots have been used as discutients, detergents, and antiseptics: Simon Paulli relates, that the long birthwort roots, applied as an epithem or in fomentation, were found remarkably serviceable in stubborn ulcers of the legs.

A R S E N I C U M.

ARSENICUM ALBUM Pharm. Paris. Arsenicum simpliciter dictum. ARSENIC OR WHITE ARSENIC: a semitransparent crystalline concrete, assuming an opaque milky hue on being exposed for some time to the air: soluble plentifully in alkaline lixivia, more sparingly in oils, and still more so in acids; dissolving also, by the assistance of a boiling heat, in water, but separating and crystallizing in great part as the liquor cools; totally exhaling, by a heat below ignition, in thick fumes, distinguishable from those of all other known mineral substances, by a strong fetid smell resembling that of garlic.

The fumes, caught in vessels, condense, either into a crystalline form again, or into a powdery one, according as the receiver is less or more removed from the action of the heat. If the arsenic be mixed with vegetable or animal coals, (or other inflammable substances not sulphureous, that is, not participating of vitriolic acid) and exposed to a moderate heat without communication with the air, it sublimes in form of a bright greyish metallic substance, quickly tarnishing to a black, lighter and less compact than any of the

the other metallic bodies, scarcely six times specifically heavier than water, changeable into a calx or white arsenic again by sublimation with the admission of air.

Arsenic is contained, in greater or less quantity, in the ores of most metallic bodies, particularly in those of tin and bismuth, and in the mineral called cobalt, *cobaltum*, *cadmia metallica*; from which last, greatest part of the arsenic brought to us is extracted, in Saxony, by a kind of sublimation: the arsenic rises at first into a large horizontal chimney communicating with the furnace, in form of a greyish meal, which, more carefully resublimed, concretes into the crystalline white arsenic of the shops. Henckel observes, that of all the metallic bodies, mercury and the antimonial metal are the only ones which are never found to have any arsenic in their ores: to these perhaps may be added zinc, whose proper ore, calamine, appears to be pure from arsenic.

WHITE arsenic is one of the most violent poisons. Besides the effects, which it produces in common with other poisonous substances, it is said to render the coats of the stomach remarkably thin, to occasion a swelling and sphacelation of the whole body, and a sudden putrefaction after death, particularly of the genitals in men(*a*). Where the quantity taken has been so small as not to prove fatal, tremors, palsies, and lingering hectic succeed. It has likewise been observed to produce very dangerous, and sometimes mortal symptoms, when applied externally(*b*), which it was formerly recommended to be, against cancers and scrophulous tumours.

The remedies against this, as against most other poisons, are, milk and oily liquors, immediately and liberally drank. Hoffmann tells us of several persons of distinction, who, on tasting food with which white arsenic had been mixed instead of sugar, were all seized with anxiety at the breast, pain at the stomach, tremor of the lips, and reachings: milk and oil were poured down, plentifully and repeatedly, so as to keep them strongly vomiting for half a day; some vomited no less than an hundred times: by this simple remedy they all escaped(*c*). Tachenius relates, that convulsions of the limbs, gripes,

(*a*) Stahl. *Mens. Novemb. cap. iv. opusc. p. 454, 455.* Lindestolpe, *De venenis, edit. Stentzel, cap. xvi. thes. x. p. 755.*

(*b*) Degner, *Hist. dysentericæ biliosæ, p. 214.* Hildanus, *obs. p. 606.* Heimrich, *Art. nat. cur. vol. ii. obs. 10.* Fernelius, *De methodo medendi, lib. vi. cap. 18.*

(*c*) Hoffmann, *Syst. med. rat. de feb. sect. ii. cap. iii. obs. iii.*

gripes, bloody urine with inexpressible pain, and a contraction of the whole body, which the fumes of arsenic had produced, being relieved by milk and oil, a slow fever succeeded, which continued during the winter, and of which he was at last cured by decoctions of the vulnerary herbs, and by the use of cabbage sprouts with orange juice, oil, and a little salt (a).

SULPHUR, which restrains the power of mercury and the antimonial metal, (see *argentum vivum* and *antimonium*) remarkably abates the virulence of arsenic; compositions of arsenic and sulphur being far less poisonous than the pure white arsenic, and those, in which the quantity of sulphur is considerable, seeming to be almost innocent. Different compositions of this kind are both prepared by art, and found native in the earth.

The bright yellow, somewhat transparent masses, called *yellow arsenic*, are prepared, by mixing the arsenical meal, as extracted by the first sublimation from the ore, with one tenth its weight of sulphur, and subliming them together: on doubling the quantity of sulphur, the compound proves more opaque and compact, of a deep red colour, resembling in the mass that of cinnabar, but losing of its beauty on being ground into powder, whilst that of cinnabar is improved by trituration: by varying the proportions of arsenic and sulphur, sublimes may be obtained of a great variety of shades of yellow and red. The fossil sulphurated arsenics differ remarkably in texture as well as in colour, some being smooth and uniform like the factitious masses, and others composed of small scales or leaves; the former are commonly distinguished by the name of *zarnicks*, the latter by that of *auripigmenta* or *orpiments*: the orpiments are the only substances to which the Greeks gave the name *arsenicon*, the preparation of white arsenic being a discovery of later years: the red zarnicks are the *sandarache* of the Greeks, and the *realgar* and *risigal* of the Arabians and some of the chemical writers.

That these fossils are really sulphurated arsenics is evident from fundry experiments. When set on fire, the arsenical, as well as the sulphureous smell, is plainly distinguishable. If triturated with quicksilver, and exposed to a suitable heat, the sulphur is detained by the mercury, and a pure white arsenic sublimes. A mixture of fixt alkaline salt, with any vegetable or animal substance, (as the compound called by the assayers *black flux*, see page 59) in like manner

(a) Tachenius, *Hippocrates chymicus*, p. 149.

manner keeps down the sulphur, and at the same time revives the arsenic into its reguline or metallic form.

All these compounds are mild, compared to the white arsenic; and several of them are looked upon by many as having no poisonous quality. Some, both of the factitious and native, have been given to dogs in considerable quantities, without producing any ill effect. The native minerals have been used as medicines in the eastern countries, and by some imprudently recommended in our own.

A R T E M I S I A.

ARTEMISIA Pharm. Lond. & Edinb. *Artemisia vulgaris major* C. B. - MUGWORT: a plant, with firm stalks, generally purplish; deeply divided leaves, resembling those of common wormwood, of a dark green colour above and hoary underneath; and small, purplish, naked, discous flowers, standing erect, in spikes, on the tops of the branches. It is perennial, grows wild in fields and waste grounds, and flowers in June.

THIS plant has been chiefly recommended for promoting the uterine evacuations, and abating hysteric spasms; for which purposes, infusions of it have been drank as tea and used as a bath. It appears to be one of the mildest of the substances commonly made use of in such intentions; and may, perhaps, be of service, in some cases, where medicines of more activity would be improper.

The leaves have a light agreeable smell, especially when rubbed a little; but scarcely any other than an herbaceous taste. An extract made from them by water is likewise almost insipid; and an extract made by spirit has only a weak aromatic bitterishness. Baierus informs us, in a dissertation on this plant, that by fermenting a large quantity of it, and afterwards distilling and cohobating the distilled water, a fragrant sapid liquor was obtained, with a thin fragrant oil on the surface. The flowery tops are considerably stronger than the leaves, and hence should seem to be preferable for medicinal use.

A R T H A N I T A.

ARTHANITA, *Cyclamen*, *Pharm. Edinb.* *Cyclamen orbiculato folio inferne purpurascens* C. B. SOWBREAD: a low plant, without any other stalk than the slender pedicles of the leaves and flowers: the leaves are pretty large, round, of a green colour, above with white specks, and purplish underneath: the flowers purplish, monopetalous, deeply divided into five segments, followed by round seed vessels: the roots large, somewhat globular, with several fibres, blackish on the outside and white within. It is perennial, a native of the southern parts of Europe, and cultivated in some of our gardens.

THE fresh roots of arthanita have a nauseous, acrid, biting taste, and no remarkable smell: by drying, their acrimony is greatly abated; by long keeping, it is almost destroyed; though after they have lost so much as to make very little impression on the organs of taste, they still betray, when taken internally, a great degree of irritating power. Dried and powdered, they have been given in doses of a dram, and found to operate as a strong, inflammatory, yet slow cathartic. The juice is said to purge strongly when applied externally to the belly; and the juice or bruised root to be of great efficacy for softening and dissolving indolent and scrophulous tumours. The flowers are of a different nature, having a moderately strong and very pleasant smell, and little other than a mucilaginous taste: they have not been used medicinally, and the use of the roots is now, among us, in great measure laid aside.

A R U M.

ARUM *Pharm. Lond. & Edinb.* *Arum maculatum maculis nigris* C. B. WAKE-ROBIN or CUCKOWPINT: a low perennial plant, growing wild under hedges and by the sides of banks. It sends forth, in March, three or four smooth leaves, triangular, or shaped like the head of a spear: these are succeeded by a naked stalk, bearing a purplish pistil inclosed in a long sheath, which is followed, in July, by a bunch of red berries: the root is irregularly roundish, about an inch thick, brownish on the outside and white within. In some plants the leaves are spotted with black, in others with white spots, and in others not spotted at all: the black spotted

fort is supposed to be the most efficacious, and hence is expressly directed by the London college. All the forts are said to be stronger, when produced in moist shady soils, than in dry open exposures.

THE fresh roots of arum have an extremely pungent acriminous taste: slightly chewed, they continue to vellicate and burn the tongue (the part which they principally affect) for many hours, producing at the same time a considerable thirst: these uneasy sensations are somewhat alleviated by milk, butter, or oils. The other parts of the plant are likewise highly acrid, though rather less so than the roots. No part has any smell, except the pistil, which has a faint fetid one.

This root loses greatest part of its acrimony on being dried sufficiently to become pulverable. Kept for some time, it seems, on first chewing, to be an insipid farinaceous substance: it still, however, retains a kind of latent pungency, so as when chewed long, in any considerable quantity, to produce a sensation as of a slight excoriation of the tongue. Parkinson observes, that the farinaceous starch-like powder has been used in washing, and that it has blistered the hands.

The fresh root, dug up in autumn, yielded upon expression about one sixth its weight of a milky juice; which, on standing, deposited a white fecula and became clear: the clear liquor was insipid: the fecula was considerably pungent, but, like the root in substance, loses its pungency on being dried. The fresh and the moderately dried roots were digested in water, in wine, in proof spirit, and in rectified spirit, with and without heat: the liquors received no colour, and little or no taste. In distillation, neither spirit nor water brought over any sensible impregnation from the arum: the watery and spirituous extracts also were nearly insipid. The root, nevertheless, loses in these operations almost the whole of its pungency.

Arum root, newly dried and powdered, is given in doses of a scruple and upwards; for stimulating the solids, attenuating viscid juices, and promoting the natural secretions; in cold, languid, phlegmatic habits; against weakness and relaxations of the stomach, and cathartic and rheumatic disorders. It has been generally given in conjunction with other materials, to some of which the effects of the compound may be in great part ascribed; thus, in the officinal powders of arum, sixteen grains of the dry root are accompanied with

with eight grains of the pungent roots of pimpinella, the same quantity of those of the yellow water flag (or of *calamus aromaticus**) ^{Pulv. ari. composit.}, four grains of cinnamon (or six of *canella alba**) and two grains of salt of wormwood (or of vitriolated tartar*) with four grains of crabs-eyes†. In the medicine recommended by Sydenham against rheumatisms, the acrid antiscorbutic herbs are largely joined to it (see *cochlearia*.) ^{† Ph. Lond. * Ph. Edinb.}

By beating the fresh root with gummy resins, and making the mixture into pills, its virtue might be better preserved than in the form of powder: the proportion of the gums, in these compositions, may be very considerable; two or three grains of the arum, in its vigorous state, being a sufficient dose. Beaten with sugar into a conserve, it likewise preserves its acrimony unabated for several months; its virtue seeming to be retained as long as its native aqueous humidity. The vinous and spirituous tinctures, by some recommended, appear, from the experiments above related, to be insignificant: but though spirituous liquors are incapable of dissolving or extracting the active matter of the arum, they seem nevertheless, when given along with the dried root as a vehicle, to promote its action: Juncker observes, that a dram of the powder, taken with a spoonful of brandy, procures a very copious sweat, even in persons little disposed to that evacuation; while the powder, by itself, has no such effect (a).

A S A F O E T I D A.

ASA FOETIDA Pharm. Lond. & Edinb. *Lasfer; laserpitium; sylphium.* ASAFETIDA OR DEVILS-DUNG: the fetid concrete juice of a large plant, growing in the mountains of the provinces of Chorasaan and Laar in Persia, called by Kæmpfer *umbellifera levistico affinis*, &c. “The umbelliferous plant akin to lovage, with
“ branched leaves like those of piony, a very large full stalk, and
“ naked solitary foliaceous seeds like those of parsnep or cow-
“ parsnep, yielding asafetida from its root.” The root of the plant, when grown to a proper age and size, is bared of earth at the top, screened from the sun by the leaves that have been pulled off, after some days cut horizontally, and again carefully screened: the juice gradually rises, and in a day or two is accumulated on the surface; and being thence collected, the superficial part of the root, that has
P 2 become

(a) *Conspectus therapia, tab. de diaphoresi, p. 99.*

become dry, is cut off, to allow an exit to the remainder of the juice. A particular detail of this process may be seen in Kæmpfer's *amœnitates exoticæ*.

This juice, as it first issues from the root, is liquid and white like milk: on being exposed to the air, it turns brownish, and gradually acquires different degrees of consistency. It is brought to us in large irregular masses, composed of various shining little lumps or grains, which are partly whitish, partly of a brownish or reddish, and partly of a violet hue. Those masses are accounted the best, which are clear, of a pale reddish colour, and variegated with a great number of fine white tears.

THIS juice has a strong fetid smell approaching to that of garlic, and a nauseous bitterish biting taste. It is by much the strongest of the deobstruent warm fetid gums; and is given, not only against hysterical complaints, flatulent colics, and obstructions of the breast; but in most of the disorders called nervous, in which it frequently acts as an antispasmodic and an anodyne: in some cases musk, and in some opium, are usefully joined to it. It is sometimes used also as an anthelmintic, and said by Hoffmann to be one of the capital medicines of that class. It is most commodiously taken in the form of pills; from a few grains to a scruple or half a dram. It loses, with age, of its smell and strength; a circumstance to be attended to in dosing it: Kæmpfer informs us, from his own observation, that a single dram of the recent juice smells more than an hundred pounds of such as is commonly sold in Europe.

Asafetida is composed of a gummy and a resinous substance, the first in largest quantity. Its smell and taste reside in the resin; which is readily dissolved and extracted by pure spirit, and, in great part, along with the gummy matter, by water. The tincture made in pure spirit is of a transparent yellow colour; that made in proof spirit, and the watery infusion, is turbid. A tincture in rectified spirit is kept in the shops; whereof two drams contain nearly all the virtue of fifteen grains of the asafetida*.

* Tinctura
asætidæ Ph.
Londinens.

In distillation with water, it impregnates the aqueous fluid highly with its scent, and yields a small portion of a pale-coloured essential oil which smells exceeding strongly: the remaining decoction, inspissated, leaves a weakly nauseous bitterish extract, of very little smell. Rectified spirit, distilled off from the tincture made in that menstruum, proves likewise considerably impregnated with the flavour of

of the asafetida, though much less so than the distilled water: the remaining extract smells moderately, and tastes strongly of the juice.

A S A R U M.

ASARUM Pharm. Lond. & Edinb. C.B. Nardus rustica.

Vulgago. ASARABACCA: a low plant, without stalks: the leaves are stiff, roundish, with two little ears at the bottom, somewhat resembling a kidney, of a dark shining green colour, somewhat hairy, set on pedicles three or four inches long: the flowers, which rise among the leaves on shorter pedicles, consist of purplish stamina standing in a darker coloured cup, and are followed, each, by a capsule containing six seeds. It is perennial and evergreen, a native of the southern parts of Europe and the warmer climates, and raised with us in gardens. The dried roots have been generally brought from the Levant; those of our own growth being supposed of weaker virtue.

THE roots and leaves of asarum have a moderately strong, not very unpleasant smell, somewhat resembling that of valerian or nard; and a nauseous, bitterish, acrid taste. The roots, given in substance in doses of a scruple or more, prove strongly emetic and cathartic. The leaves have the same operation, but their dose or degree of force has not been precisely determined: according to some, they are of more activity than the roots.

It is said, that this emetic plant has been of service in ferous disorders, and hurtful in melancholic cases: that in small doses, it promotes perspiration, urine, and the uterine flux: that tinctures made in spirituous liquors possess both the emetic and cathartic virtues of the asarum; but that the extracts, obtained by inspissating these tinctures, act only, and with sufficient mildness, by vomit; requiring to be given in as large doses as the plant in substance, to produce as plentiful evacuations: that infusions in water operate mildly both upwards and downwards: that by coction in water, the emetic power is first destroyed, and afterwards the purgative; the decoction long boiled, or an extract prepared with a large quantity of water not acting at all by stool or vomit, but proving powerfully deobstruent, diuretic, &c. It is obvious, however, as the activity of the asarum is diminished more and more by boiling, that both

both the decoction and the extract must be accompanied with one capital inconvenience, precariousness in point of strength.

The principal use of asarum among us is as an errhine. The root is one of the strongest of the vegetable substances commonly employed in this intention: a grain or two, snuffed up the nose, procure a large evacuation of mucus both from the nose and mouth, without provoking sneezing like the white hellebore root, or discovering any remarkable irritation. The leaves, though supposed to be stronger than the roots as emetics and cathartics, appear to be milder as errhines. Geoffroy relates, that after snuffing a dose of this errhine, he has observed the salutary discharge to continue for three days together, and that he has known a paralysis of the mouth and tongue cured by one dose: he recommends this medicine in stubborn disorders of the head proceeding from viscid matters, in palsies, and in soporific distempers. During its operation, the patient must carefully avoid cold; which is apt to produce pustules, inflammations, and swellings of the face, and sometimes more alarming symptoms. This herb is a principal ingredient in the cephalic or sternutatory powders of the shops: some take equal parts of dried asarum and marjoram leaves*; others, equal parts of the dried leaves of asarum, marjoram, and marum syriacum, and dried lavender flowers†. The empirical herb snuffs have likewise the leaves of asarum for their basis, but often mixed with ingredients of a more dangerous nature.

* Pulv. cephalicus
Ph. Edinb.

† Pulv. sternutatorius
Ph. Lond.

A S P A R A G U S.

ASPARAGUS Pharm. Edinb.

Asparagus sativa C. B.

As-

PARAGUS: a perennial plant, cultivated for culinary use. In the spring appear a number of straight naked shoots; which, rising to the height of two or three feet, divide into slender, firm, spreading branches, clothed with soft, green, capillary leaves: the flowers are of a pale greenish colour, and succeeded by shining red berries.

THE young shoots of asparagus, boiled, are supposed to promote appetite, but afford little nourishment. They give a strong fetid smell to the urine in a little time after being eaten, and for this reason have by some been accounted useful diuretics, by others injurious to the kidneys. It does not appear, from common experience, that they possess either of these qualities in any considerable degree.

The roots of the plant, which are the part principally employed for medicinal purposes, are less agreeable in taste than the young shoots, and supposed to be more aperient and diuretic: they appear to be similar, in virtue as in taste, to the roots of fennel, parsley, and the others commonly called aperient, to which they are sometimes joined in apozems and infusions. It is observable, that neither the roots, nor the stalks when grown up so as to part into branches, give any ill smell to the urine.

ATRIPLEX OLIDA.

ATRIPLEX OLIDA Pharm. Lond. *Atriplex foetida* C. B.
Chenopodium foetidum Tourn. *Blitum foetidum vulvaria dictum* Raii
 syn. *Garosinum*. STINKING ORACHE OR ARACH: a low, procumbent plant, sprinkled all over with a whitish clammy meal: the leaves are small, of a roundish figure, with an obtuse point: on the tops of the branches come forth clusters of imperfect flowers, followed each by a flattish seed. It is annual, and grows wild about dunghills.

THIS plant has a moderately strong smell, not a little offensive, somewhat akin to that of salt-fish, and which lasts long on the hands after touching the herb: it is sometimes met with among old rubbish; in which situation, its smell proves weaker than when produced in moister places, which it naturally delights in, and is also somewhat of a different kind: in either case, its taste is not very considerable. It gives a strong impregnation to water, both by infusion and distillation: the smell is extracted likewise by rectified spirit, and is by this menstruum in some degree covered. In drying, the smell becomes weaker and of a less offensive kind: in keeping it is dissipated, but not soon.

Stinking arach, on account of its strong scent, is reckoned an useful antihysterick; in which intention some recommend a conserve of the leaves, others a watery infusion, and others a spirituous tincture of them. On some occasions, it may perhaps be preferable to the fetids which have been more commonly made use of; as not being accompanied with any pungency or irritation, and seeming to act merely by virtue of its odorous principle.

AURANTIA.

A U R A N T I A.

AURANTIA & *aurantia malus*. ORANGE TREE: a beautiful evergreen tree or shrub; with numerous, flexible, somewhat prickly branches; smooth, firm, broad leaves, having each two heart-like appendages on the pedicle; pentapetalous white flowers, set thick together among the leaves; and a large round yellow fruit, divided internally into eight cells, filled with a juicy pulp and whitish seeds. It is a native of the warmer climates, and scarcely bears the winters of ours without artificial shelter.

I. *AURANTIA HISPALENSIS*, *malus aurantia fructu acido Pharm. Lond.* *Aurantia malus Pharm. Edinb.* *Malus aurantia major C. B.* SEVILLE ORANGE: with dark yellow warty fruit, containing an acid juice.

THE flowers of this tree are highly odoriferous; and on account of their fine smell, have been used in perfumes, and as a flavouring ingredient in medicinal compositions: their taste is slightly bitterish. They communicate their smell and taste both to water and rectified spirit, most perfectly to the latter: the watery infusion is of a brownish, the spirituous of a yellow colour. In distillation with water, they impregnate the aqueous fluid strongly with their agreeable odour, and yield a small quantity of a fragrant essential oil: the distilled water * and oil †, the preparations principally made use of, are generally brought to us from Italy and France, being rarely prepared in this country on account of the scarcity of the flowers. The watery decoction, inspissated, yields an extract unpleasantly bitterish: an extract made by rectified spirit retains, along with the bitterish matter, a moderate share of the fine flavour of the flowers.

* Aq. naphæ
Pharm. Paris.

† Ol. seu es-
sentialia Neroli.

THE leaves also have a pleasant though weak smell, and a bitterish taste. Viewed against the light, they exhibit numerous transparent specks, which appear to be little vesicles filled with essential oil. In distillation with water, a small portion of oil separates, of an agreeable flavour, but less so than that of the flowers.

THE yellow rind of the fruit, carefully freed from the fungous white matter underneath, is a grateful warm aromatic bitter, of frequent use as a stomachic and corroborant, and for giving an agreeable flavour to other medicines. It is warmer than the peel of lemons,

lemons, of a more durable flavour, and abounds more with a light fragrant essential oil; which is lodged in distinct cells on the surface of the peel, and exudes upon wounding it.

Infused in boiling water, it gives out nearly the whole of its smell and taste, together with a bright yellow tincture: eight ounces of the fresh rind give a strong impregnation to four * or five † pints of water; and by dissolving in these infusions a proper quantity of sugar, an agreeable syrup is prepared in the shops. Cold water, on the other hand, extracts chiefly the bitter matter, leaving the aromatic behind: hence, when the fresh peel is steeped by the confectioners (for making a sweetmeat) till it has lost its bitterness, it still retains a great share of its peculiar flavour: when large quantities are macerated, a portion of oil is found floating on the surface, from some of the cells having been distended and burst by the aqueous fluid.

In distillation with water, the essential oil, in which the flavour of the peel resides, totally arises, leaving only the bitter matter behind in the decoction. Both the oil and distilled water are very grateful: a spirituous water, moderately impregnated with the flavour of the orange peel (by distilling a gallon of proof spirit from six ounces of the dry rind ‡), is an elegant cordial: and a simple water, more lightly flavoured with it, (by drawing over a gallon of water from four ounces of the dry peel §), is an useful diluent in fevers, and other diseases, where the stomach and palate are apt to receive quick disgust.

Rectified spirit of wine, digested on orange peel, extracts its virtue more perfectly than water, and receives from it a like yellow tincture: after the action of the spirit, the peel remains crisp, after water tough. The spirit, drawn off by distillation, tastes considerably of the peel, but discovers little or nothing of its smell: the remaining extract contains, along with its bitterness, great part of its aromatic flavour, but is less agreeable than the rind in substance.

THE juice of oranges is a grateful acid, of great use in inflammatory and putrid disorders both acute and chronical. Its acid matter differs, in some of its pharmaceutical properties, both from the fermented acid of vinegar, and from the native acid salts of the leaves of plants, at least of such as have been examined; --- from the former, in its not being volatile, or not exhaling upon inspissating the juice, nor rising in distillation with the heat of boiling water; --- from the latter, in its being soluble in spirit of wine; the

Q

inspissated

Syrup. e cort.
aurantiorum.

* Ph. Lond.

† Ph. Edinb.

‡ Aq. cortic.
aurant. spiri-
tuosa Pharm.
Lond.§ Aq. cortic.
aurant. simp.
Ph. Lond.

inspissated juice, at least all its saline matter, dissolving readily in this menstruum as well as in water, and liquefying also in the air. These properties afford commodious means of preserving the acidity of the orange for many years; either in the form of a thick extract, or of a more dilute spirituous solution. The inspissation of the juice must be performed with a very gentle heat, especially towards the end of the process, when the matter begins to grow thick, as it is then not only liable to contract an empyreuma, but at the same time to have great part of its acidity destroyed.

THE young unripe fruit, commonly called Curaçoa apples, (*aurantia curassavensis* Pharm. Edinb. *Aurantia enascentia* & *immatura* Pharm. Paris.) is a grateful aromatic bitter, of a flavour different from that of the peel of the ripe fruit, and without acidity; when fresh it has a little tartness, which in drying is in great measure lost. It readily gives out to rectified spirit the whole of its bitterness and flavour, together with a fine green tincture: water extracts its virtue less perfectly. Distilled with water, it yields a considerable quantity of a yellow essential oil, of an agreeable and very fragrant smell. The spirit, distilled from the spirituous tincture, brings over likewise some share of its flavour, leaving however the greatest part concentrated in the extract, which proves an elegant, mild, aromatic bitter.

2. AURANTIA SINENSIS. *Aurantia dulcis.* *Aurantium dulci medulla vulgare* Ferrant. *hesperid.* & Pharm. Paris. CHINA or SWEET ORANGE: with bright yellow smooth fruit, containing a sweet juice.

The rind of this kind of orange has a weak smell, and very little bitterness; and is scarcely ever employed for any medicinal use. The juice, of a grateful subacid sweetness, agrees in its general qualities, with the *fructus boræi* of our own climate; and like them, if taken immoderately, produces gripes and fluxes. It is a useful refrigerant in inflammatory dispositions, and an excellent antiseptic in scorbutic and other putrid disorders.

A U R U M.

AURUM vel sol Pharm. Paris. GOLD: a yellow metal, extremely ductile; above nineteen times heavier than water; fusible in a low white heat; fixt and indestructible in the fire; not soluble by any of the simple acids, in the common ways of making solutions; easily dissolving in a mixture of the nitrous and marine acids, (called *aqua regis*) into a yellow liquor which stains the skin purple.

Essential oils, shaken with this solution, imbibe the gold from the acid, and carrying it up to the surface, keep it there for a time dissolved; but gradually throw it off again, on standing for some hours, in form of bright yellow films, to the sides of the glass. The ether or *spiritus vini æthereus* takes up the gold more readily and completely, and keeps it permanently dissolved. Rectified spirit of wine mingles uniformly with the acid solution; but on standing for some days, the gold separates from the mixture, and rises in films to the surface. A piece of tin, placed in the solution largely diluted with water, changes it red or purple, and throws down a precipitate of the same colour. By the appearances resulting from these additions, very minute portions of gold, dissolved in liquors, may with certainty be discovered.

This metal is found chiefly native: in small granules or filaments; intermingled among earths, or bedded in stones; in the mines of the Spanish West Indies, among the sands of some of the African coasts and of some European rivers, and blended with the ores of some other metals. According to the nature of these admixtures, and their degree of union with the gold, the extraction of the metal is differently effected; by ablution with water; by amalgamation with mercury; by bringing the whole matter, that contains the gold, into fusion by fire, with the addition of proper fluxes.

GOLD was introduced into medicine by the Arabians, and held to be one of the greatest cordials and comforters of the nerves. As it apparently can have no medicinal effect in its gross state, not being dissoluble by any fluid that can exist in the bodies of animals; the chemists have attempted to subtilize and resolve it, and to extract what they called an anima or sulphur from it. But as no means have been discovered of separating the component parts of this metal, their tinctures and *aurum potabiles* either contained none of the gold, or were no other than diluted solutions of its whole substance. That the

* Tinct. auri
feu aurum
potabile *Ph.*
Parif.

† Aurum ful-
minans *Ph.*
Parif.

aurum potabile of the faculty of Paris, reckoned one of the preparations of this kind, (made by shaking some oil with a solution of gold in aqua regis, and afterwards d

oil for a month in rectified spirit of wine*) retains none

is obvious from the characters of this metal above laid do

Solutions of gold in aqua regis are corrosive: so far dilu

they can be taken with safety, they are, according to

purgative: the dry matter left upon inspissating them,

caustic. The purple precipitate, made by adding pure tin to

is said to be diaphoretic: a precipitate made by alkalies is

gative and emetic. This last precipitate washed from t

saline matter by repeated affusions of water†, purges more

though rarely without gripes, and sometimes operates

has been given, from half a grain to five or six grains, in

in convulsive and other disorders arising from, or su

crudities in the first passages: but as its operation is ext

able, as it has often produced dangerous symptoms(a)

best effects are no other than what may be obtained from

of known safety, it is now, in this country, entirely in d

regarded only as a matter of curiosity, on account of its

exploding violently when heated or strongly rubbed.

Some have amalgamated gold with pure quicksilver,

compound to calcine, (as directed in page 92 for the c

mercury by itself), till it was converted into a red pow

have melted the gold with twice its weight or more of ma

of antimony, and exposed the powdered mixture, in a

to a moderate heat, till the powder became purple.

kinds of preparations have very considerable medicina

not to be questioned; but that those virtues have any

upon the gold, is scarcely to be presumed: all that can

expected from this ingredient is, to obtund the activity

curial calx, and of the not fully calcined antimonial me

gold is thus divided by the admixture of other metallic

in some degree calcined along with them, it proves disso

of the mineral acids which would not touch it before, t

of salt; but the acids of the vegetable and the animal

still resists as permanently as fine gold in the mass.

BALAUSTIA.

BALAUSTIA Pharm. Lond. & Edinb. BALAUSTINES: large rose-like flowers, of a deep red colour, set in long bell-shaped tough cups. They are the produce of the wild or double-flowered pomegranate tree (*granatus sylvestris* Pharm. Edinb. *Balaustia flore pleno majore* C. B.); a low prickly tree or shrub, with long narrow leaves, bearing a brownish acerb fruit about the size of an orange; a native of the southern parts of Europe, and cultivated in some of our gardens on account of the beauty and continuance of its flowers. The shops are usually supplied with the dried flowers from abroad, though those of our own growth do not appear to be any wise inferior to the foreign.

Balaustine flowers are mildly astringent and corroborant; of a moderately rough and somewhat bitterish taste, and of little or no smell or particular flavour. They give out their astringent matter, together with a pale red colour, both to water and rectified spirit: the extracts, obtained by inspissating the tinctures, in which the active parts of the flower are concentrated, are pretty strongly styptic. The spirituous tincture is of a paler colour, and the extract in less quantity and proportionably stronger in taste, than the tincture and extract made with water. The spirituous extract, as well as the watery infusion, strikes an inky blackness with solution of chalybeate vitriol; a proof, that the astringent matter of the balaustine, after its separation from greatest part of the mucilaginous and other grosser substances of the flower, is still dissoluble in water.

BALSAMITA.

BALSAMITA: a perennial plant, with undivided indented leaves, and yellow naked discous flowers set in form of umbels on the tops of the stalks; a native of the southern parts of Europe, and cultivated in our gardens.

I. *BALSAMITA* MAS, *Costus hortorum*, Pharm. Edinb. *Costus hortensis* vel *tanacetum hortense* Pharm. Paris. *Mentha saracenica* *Officinarum Germaniæ*. *Mentha hortensis corymbifera* C. B. Costmary or alecost; with oval leaves,

AGERATUM,

2. AGERATUM, *Balsamita femina*, *Costus hortorum minor*, *Eupatorium mesues*, *Herba julia*, *Mentha corymbifera minor*. *Ageratum foliis serratis* C. B. Maudlin; with numerous, small, oblong, narrow leaves.

THESE herbs have been used as mild corroborants and aperients, in weaknesses of the stomach, obstructions of the viscera, and cachectic indispositions; and though at present, among us, disregarded, they promise, from their sensible qualities, to be medicines of some utility.

They have a moderately strong pleasant smell, somewhat approaching to that of mint, and a weakly aromatic bitterish taste: the two sorts differ a little in flavour and in taste from one another, the first having the most of the mint smell, and likewise the greatest bitterishness. Infusions of them in water smell pretty strongly, and taste slightly, of the herbs: in the tinctures made with rectified spirit, which are of a deep green colour, the smell is in good measure covered by the menstruum. In distillation with water, they yield a small quantity of essential oil, of a pungent taste, and which smells strongly and agreeably of the balsamitæ; that of the second species is the most grateful: the remaining decoction, thus deprived of the aromatic matter, is unpleasantly, though but weakly, rough, bitter and subsaline. They give over a part of their flavour also in distillation with rectified spirit, particularly the second species, whose odorous matter appears to be of a more volatile kind than that of the first: the extracts, obtained by inspissating the spirituous tinctures, are moderately, and not disagreeably, warm and bitterish.

B A L S A M U M C O P A I B A.

BALSAMUM COPAIVA Pharm. Lond. *Balsamum copaibæ* Pharm. Edinb. *Balsamum brasiliense*. BALSAM OF COPAIBA OR CAPIVI: a liquid resinous juice, obtained from a large tree of the same name, (*copaiba brasiliensis* Marcg. *Arbor balsamifera brasiliensis fructu monospermo* Raii hist.) which grows spontaneously in the woods of Brazil, and has been lately introduced into some of the British American islands. The balsam is extracted by making deep incisions in the trunk of the tree, in the middle of the summer heats: if no juice flows, the wounds are for a time closed up. It is said, that

that at the proper season, several pounds of balsam issue in an hour or two; that one tree yields in all five or six gallons; but that after once bleeding, it never affords more.

The juice, as it issues from the tree, is limpid and colourless, like the distilled oil of turpentine. As brought to us, it is usually of a pale yellowish hue, and about the consistence of oil olive or a little thicker: by long keeping, it grows nearly as thick as honey, but has not been observed, like most of the other resinous juices, to grow solid or dry. In all its states of consistency, it continues clear and transparent.

We sometimes find in the shops, under the name of copaiba, a thick, whitish, almost opaque balsam, with a quantity of turbid watery liquor at the bottom. This sort, probably, is either adulterated by the mixture of other substances, or has been extracted, by boiling in water, from the bark or branches of the tree. It is much less grateful than the genuine balsam.

BALSAM of copaiba has a moderately agreeable smell, and a bitterish biting taste, not very intense, but durable in the mouth. It has been employed principally, and preferably to the other balsams, in gleans, the fluor albus, and in ulcerations of the urinary passages and the lungs. Fuller says, he has known dry deep coughs, coughing up of blood and pus, voiding of chyle instead of urine, with great pains and weakness, cured by it; and that, notwithstanding the manifest warmth and bitterness of its taste, he has found it to agree in hectic cases: he observes, that it gives the urine a bitter taste, but not a violet smell as the turpentine does, and that if taken in doses of two or three drams, it proves, like them, purgative. The usual dose is from ten to thirty or forty drops.

This balsam, agitated with water, in some degree unites with it, and renders the liquor turbid and milky, but soon separates and rises to the surface on standing. Dropt on sugar, or triturated with thick mucilages, or with whites or yolks of eggs, it becomes more permanently miscible with water into an uniform milky liquid: it is generally taken either in this form, or mixed with powdery and other matters into a bolus or electary. It mingles with oils, easily with the distilled, more difficultly with the gross ones obtained by expression. It dissolves in rectified spirit of wine into a transparent liquor, of a fragrant smell, more agreeable than that of the balsam itself.

Distilled

M A T E R I A M E D I C A.

Distilled with water, it yields nearly half its weight of an essential oil, which when newly drawn is limpid, but by age grows yellowish: the part of the balsam, which remains behind in the still, is a tenacious inodorous resin, of a yellowish colour inclining to green. The resin dissolves in rectified spirit more easily than the entire balsam; the oil more difficultly, requiring, as Hoffmann observes, near four times its weight of the menstruum, whereas the balsam will dissolve in twice its weight or less.

* Ol. copaivæ
comp. Ph.
Linnæus.

The balsam, distilled in a retort, without addition, by a fire gradually raised, gives over first a light yellow oil, smelling considerably of the juice; then a darker coloured oil, and afterwards a fine blue one, both which are of a very pungent taste, and have little other than an empyreumatic flavour, though not of a very ungrateful kind. In the shops is kept an empyreumatic oil, drawn from a mixture of a quart of the balsam with four ounces of gum guaiacum*.

BALSAMUM PERUVIANUM.

BALSAMUM PERUVIANUM, *indicum*, *mexicanum*, *americanum*. BALSAM OF PERU: a resinous juice, obtained from certain odoriferous trees (*cabureiba* Pison. *hoitziloxitl seu arbor balsami indici* Hernand.) growing in Peru and the warmer parts of America.

I. *BALSAMUM PERUVIANUM* Pharm. Lond. & Edinb. *Balsamum peruvianum nigrum, fuscum, vulgare*. Common balsam of Peru; usually about the consistence of thin honey, and of a dark opaque reddish brown colour inclining to black. It is said to be extracted by boiling the tops and bark of the tree in water, and to be found floating on the surface when the liquor cools (a). The balsam, however, as brought to us, dropt into cold water, does not float, but sinks immediately to the bottom: if a drop be let fall into water almost boiling hot, it separates into two parts, an oily cuticle, of a very penetrating taste, which spreads upon the surface, and a grosser matter, in larger quantity, which sinks. It may be presumed therefore, that the balsam is extracted by some other method than that above pointed out.

This balsam does not in any degree unite with water, or render it milky or turbid, by agitation. It becomes miscible with water, like that

(a) Monardes, *apud Clusium, exoticorum lib. x.*

that of copaiba, by the intervention of mucilage or yolk of eggs, but not perfectly by sugar: when united with sugar in a dry form, or with thick solutions of it, great part of the balsam separates and subsides on diluting the mixture with water. It dissolves in rectified spirit of wine, a small quantity of impure matter commonly remaining; and likewise, by the assistance of a boiling heat, in alkaline lixivia (a). It unites readily with distilled oils; but not at all with expressed oils or with fluid animal fats, a circumstance in which it differs remarkably from all the other resinous juices that have been examined: after it has been blended, by trituration, with consistent unctuous matters, and with wax, it separates and falls to the bottom as soon as the mixture is made fluid by heat. Nor does it mingle very perfectly with the vegetable juices of its own kind, the native balsams and turpentine.

Distilled with water, it yields about one sixteenth its weight of essential oil, of a reddish colour, a fragrant smell, and a very pungent taste: this oil is remarkably difficult of solution in spirit of wine, requiring, according to Hoffmann's experiments, no less than twelve times its own weight of the spirit. The balsam, distilled in a retort, without addition, yields a larger quantity of a yellowish red empyreumatic oil, and commonly, as Neumann observes, a small portion of saline matter similar to flowers of benzoine.

This juice has an agreeable aromatic smell, and a very hot pungent taste. It is one of the hottest of the natural balsams, and hence preferred in cold phlegmatic dispositions, for warming the habit, and strengthening the nervous as well as the vascular system. The dose is from two or three grains to ten or twelve. It is used also, in preference to the other balsams, externally, for wounds and ulcers: Van Swieten observes, that for preventing or abating the terrible symptoms arising from punctures of the nerves or tendons, one of the best remedies is balsam of Peru, dropt warm into the wound, and made to spread and penetrate by applying a warm spatula (b).

2. BALSAMUM PERUVIANUM ALBUM seu *styrax alba* Pb. Paris. White balsam of Peru, or white storax; brought over in gourdshells; of a pale yellowish colour, thick and tenacious, becoming by age solid and brittle. It is supposed to be the produce of the same trees which afford the common or black balsam, and to exude from incisions made in their trunks.

R

This

(a) Hoffmann, *Diff. de balsamo Peruviano*, cap. ii. 11 § 23.

(b) *Comment. in Boerh. aphorismos*, § 164, vol. i p. 242.

This balsam is in taste less hot and pungent than the foregoing, in smell more fragrant and agreeable, somewhat approaching to that of storax. It readily dissolves in rectified spirit, and unites with oils both expressed and distilled, as also with animal fats. Dropt, in its fluid state, into warm water, it spreads totally upon the surface, and forms a pellicle cohesive enough to be taken off entire^(a), one of the principal criteria by which the precious balsam of Gilead has been distinguished. It is rarely met with in the shops.

BALSAMUM TOLUTANUM.

BALSAMUM TOLUTANUM Pharm. Lond. & Edinburg.
BALSAM OF TOLU: a resinous juice; flowing from incisions made in the trunk of a tree of which we have no particular description, said to resemble the pine, growing in the province of Tolu in the Spanish West Indies ^(b), from whence the balsam is brought to us in little gourd shells. It is of a yellowish brown colour inclining to red, in consistence usually thick and tenacious: by age it grows hard and brittle, without suffering any great loss of its odoriferous parts.

THIS balsam has an extremely fragrant smell, somewhat resembling that of lemons; and an agreeable, warm, sweetish taste, very slightly pungent, and not accompanied, like that of most other balsams, with any nauseous relish. It possesses the same general virtues with those of Peru and copaiba, differing only in being milder, less hot or irritating, and more grateful to the stomach as well as the palate.

Boiled in water for two or three hours, in a circulatory vessel, or in a matras with a very long neck or having a long tube inserted into its mouth, so as to prevent evaporation, it communicates to the liquor great part of its fragrance: eight ounces of the balsam give a strong impregnation to three pints of water: the decoction, strained off from the undissolved resin, forms, with a proper quantity of sugar, an elegant balsamic syrup*. The balsam dissolves totally in rectified spirit of wine, and in this form may be mixed in substance with syrups, so as to impregnate a much larger quantity of them with its fine flavour: forty-five grains of the balsam, dissolved in an ounce of pure

* Syr. balsamic. P. L.

(a) Bartholin, *Diff. de theriaca*, ii. 26.

(b) Monardes. *apud Clusium, exoticorum*, lib. x.

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pure spirit*, are sufficient for two pounds of a simple flavourless syrup made from sugar and water†: the solution is to be stirred gradually into the syrup just warm from the fire, and the mixture kept in the gentle heat of a water bath till the spirit has exhaled§. This balsam may likewise be dissolved in water, into a milky liquor, by trituration with gums or mucilages. It unites readily with distilled oils, more difficultly with expressed oils and with fats.

* Tinct. tolu-
tana Ph. Lond.

† Syr. simplex
Pharm. Lond.
Syr. commun.
Pharm. Edinb.

§ Syr. balsa-
mic. Ph. Ed.

In distillation with water, it impregnates the liquor strongly with its fragrance; and this, perhaps, is the most advantageous method of obtaining its simple odoriferous matter in the form of a watery solution: if the quantity of balsam, submitted to the distillation, be large, a small proportion of a very fragrant essential oil may be collected. Distilled in a retort, without addition, it yields a pale and a dark coloured empyreumatic oil, and sometimes a small quantity of a kind of saline matter, of the same nature with flowers of benzoine.

B A M I A.

BAMIA MOSCHATA Pharm. Paris. *Ab-el-mosch, i. e. gra-
num moschi. Semen ketmiæ ægyptiacæ.* MUSK-SEED: flat, kid-
ney-shaped, striated seeds, about the size of a large pin's head, of a
greyish or brownish colour on the outside, and white within; pro-
duced by a shrubby plant, of the mallow kind, (*alcea ægyptiaca vil-
losa* C. B.), a native of Egypt, and of the East and West Indies.

THESE seeds have a fragrant smell, approaching to that of musk,
and a slight aromatic bitterish taste. They are used in perfumes, and
seem to have a claim, as medicines, to the cordial and nervine vir-
tues experienced from most of the other substances of that class.
They are ranked in France among the officinals, but are rarely to
be met with among us.

B A R D A N A.

*BARDANA MAJOR, Lappa major, Pharm. Edinb. Lappa
major, arcium dioscoridis C. B. Perfonata sive lappa major aut bar-
dana J. B.* BURDOCK or CLOTBUR: a biennial plant, common
by road sides, sufficiently known by its scaly heads or burs: the
leaves are very large, shaped somewhat like a heart, of a deep green

colour above and whitish underneath: the seeds flatted, nearly oval, somewhat crooked, slightly striated, of a dark brown or blackish colour: the root large, streight, brownish on the outside and white within, composed of a thick cortical part, and a spongy medullary substance, with more or less of a woody septum between them.

THE roots of burdock have very little smell, and a weak taste, chiefly sweetish, mixed as it were with a slight bitterishness and roughness. Boiled in water, they impart a brownish colour, and a soft vapid kind of taste: extracts made from them, both by water and by rectified spirit, are weakly sweetish, bitterish, subastringent, and subsaline. These roots are recommended as mild diuretics, diaphoretics, and sweeteners, in scorbutic, rheumatic, gouty, and venereal disorders; and are supposed to be of similar or superiour virtue to china and sarsaparilla, to which, in their sensible qualities, they have a considerable resemblance. They are used chiefly, and to the best advantage, in the form of decoction: two ounces of the dried root are boiled in three pints of water, till one pint is wasted, and a pint or more of the strained liquor taken warm every day*.

* Decoctum
bardanæ
N. Jacom. Ed.

The expressed juice of the leaves has been sometimes given, to the quantity of a quarter of a pint or more, in the same intentions. The leaves are bitterer and more saline than the roots, and have nothing of their sweetishness: the juice, depurated, and inspissated to the consistence of an extract, discovers a moderately strong, penetrating, saline bitterness.

The seeds also are bitterish and slightly aromatic; and have been given, in doses of a dram, as a diuretic, and as an aperient in disorders of the breast. A good deal of care is requisite, to clear them thoroughly from the prickly matter with which they are covered, and which, if swallowed, immediately discovers how much it offends the parts it passes through, by the uneasy sensations it produces in the throat (a).

B D E L L I U M.

BDELLIUM Pharm. Edinb. BDELLIUM: a gummy-refinous juice; the produce of an oriental tree, of which we have no particular description; brought from Arabia and the East Indies, in pieces of different magnitudes, externally of a dark reddish brown colour

(a) Boerhaave, *Hist. plant. herb. Lugd. bat.* p. 205;

colour not unlike myrrh, internally clear and somewhat resembling glue.

THIS gummy-resin has a moderately agreeable smell, and a bitterish slightly pungent taste. It grows soft and tenacious in the mouth, and sticks to the teeth. Laid on a red hot iron, it readily catches flame, and burns with a crackling noise; during which, little streams of liquid matter ooze out at the surface. Both water and rectified spirit dissolve, each, near one half of the bdellium: the spirituous tincture, of a transparent reddish yellow or orange colour, tastes stronger, and smells more agreeably of the bdellium, than the watery infusion, which is turbid and brownish. Geoffroy relates, that its whole substance is dissolved by wine, vinegar, tartarized spirit of wine, and alkaline liquors: the active matter of the bdellium is indeed extracted by all these menstrua, but the three first were found upon trial to leave a considerable part of its substance undissolved: proof spirit took up nearly the whole. In distillation with water, it impregnates the aqueous fluid weakly with its flavour; nor is there any appearance of essential oil, at least when only small quantities, as three or four ounces, are submitted to the operation. The distilled spirit has very little flavour of the bdellium; nevertheless, the spirituous extract proves weaker, both in smell and taste, than the juice in substance, its active parts being probably enveloped, in this preparation, by the tenacious resin.

This gummy-resin stands recommended, as a corroborant and attenuant, in disorders of the breast, for promoting urine and the menses; and externally for resolving or maturing hard tumours. It appears to be one of the weakest of the deobstruent gums, and is at present rarely made use of.

B E C A B U N G A.

BECABUNGA Pharm. Lond. *Becabunga, anagallis aquatica, Ph. Edinb.* *Anagallis aquatica minor folio subrotundo C. B.* *Veronica aquatica folio subrotundo Morison. hist.* *Laver germanicum.*

BROOKLIME OR WATER PIMPERNEL: a low creeping plant; with round thick smooth reddish stalks, naked and procumbent at bottom, erect at top, and clothed with roundish firm juicy leaves, of a dark shining green colour, slightly indented about the edges, set in pairs at the joints: from the bosoms of the leaves arise naked footstalks, bearing

bearing spikes of blue flowers which are deeply cut into four segments and followed by flattish seed vessels. It is common in rivulets and ditches: the leaves remain all the winter, but are in greatest perfection in the spring.

THIS herb is ranked among the antiscorbutics, and supposed to possess, in some degree, the virtues of the *cochlearia* and *nasturtium*. It is chiefly employed in conjunction with these and the other acrid antiscorbutic herbs, to which it appears to be an useful addition, though not entirely similar to them in quality. It has nothing of the subtile volatile smell of the plants of the scurvy grass kind, and discovers hardly any pungency to the taste; what taste it has being rather subsaline and bitterish than acrid.

B E L L I S M A J O R.

BELLIS MAJOR Pharm. Edinb. *Buphtalmum majus*; *leucanthemum vulgare*; *consolida media*; *oculus bovis*. *Bellis sylvestris caule folioso major* C. B. GREATER OR OXEYE DAISY; a plant with oblong narrow deeply indented leaves, joined close to the stalks, which are pentagonal, hairy, branched, and bear on the tops pretty large solitary flowers composed of white petals set round a yellow disk. It is perennial, grows wild in corn and pasture grounds, and flowers in May and June.

THE leaves of this plant have been recommended in disorders of the breast, both asthmatical and phthysical, and as diuretics. Geoffroy relates, that the herb, gathered before the flowers have come forth, and boiled in water, imparts an acrid taste, penetrating and subtile like pepper; and that this decoction is an excellent diuretic and vulnerary. Either this experiment was made, not with the *bellis major*, but with the *bellis minor*; or else the herb loses its pungency when the flowers appear: the *bellis minor* is manifestly acrid, but in the *major*, when in flower, no acrimony could be observed: the leaves, whilst fresh, seemed little other than herbaceous; when dried, they discovered to the palate a not ungrateful mucilaginous sweetness.

B E L L I S M I N O R.

BELLIS MINOR; *consolida minima*, Pharm. Edinb. *Bellis sylvestris minor* C. B. COMMON DAISY: a low somewhat hairy plant, with oblong leaves lying on the ground, widening from the root to the extremity, which is rounded: among these arise round slender naked pedicles, bearing solitary flowers composed of white or purplish petals set round a yellow disk. It is perennial, common almost every where, and flowers early in the spring.

THIS plant stands recommended as a vulnerary, detergent, and resolvent; in diseases of the breast, internal bruises, hypochondriacal complaints, and disorders proceeding from the drinking of cold liquors when the body has been much heated. Schröder informs us, that the leaves and flowers loosen the belly.

The leaves, which have been chiefly made use of, are in taste slightly acrid. The roots are considerably stronger, of a subtle penetrating pungency, not hot or fiery, but somewhat of the contrayerva kind; and though at present disregarded, promise to be a medicine of no small virtue. Their pungent matter is not dissipated in drying, is dissolved both by water and spirit, and on inspissating the solutions is left in great part behind, in the watery, as well as in the spirituous extract. No part of the plant has any remarkable smell.

B E N.

BEN, *balanus myrepfica*, Pb. Paris. *Glans unguentaria*. *BEN*: a whitish nut, about the size of a small filberd, of a roundish triangular shape, including a kernel of the same figure covered with a white skin. It is the produce of a middle-sized tree, said to resemble the birch, and to grow spontaneously in the East Indies and in America.

THESE kernels have a nauseous oily bitter taste; and when taken internally, are said to disorder the stomach, and occasion purging, sickness, and vomiting. On expression, they yield about one fourth their weight of a yellowish oil, of scarcely any particular taste or smell; the nauseous bitter matter remaining behind, not soluble in oily menstrua. This oil differs from most of the others of the expressed kind, in not being subject to grow rancid by long keeping;
on

on account of which property, it is employed as a basis for perfumes and odoriferous unguents. It is impregnated with the fragrance of jafmin and other flowers, by stratifying them with cotton dipt in the oil, and repeating the process with fresh flowers, till the oil becomes sufficiently odorous, after which it is squeezed out from the cotton in a press.

B E N Z O I N U M.

BENZOINUM Pharm. Lond. & Edinb. *Benjoinum; benzoe; asa dulcis.* BENZOINE or BENJAMIN: a concrete resinous juice, obtained from a middle sized tree, which, according to the Linnæan system, founded on the flowers, is a species of bay; with undivided, somewhat oval leaves, pointed at both ends, not ribbed, falling off in the winter (*a*); bearing flattish nuts, about the size of nutmegs, whose fleshy covering is externally rough and hairy (*b*). This tree is a native both of the East Indies and of North America, particularly of Virginia and Carolina, and has been thence brought into England, where it grows with vigour in the open ground: the bark and the leaves smell like benzoine, and yield with rectified spirit a resin of the same kind of smell; but no resin has been observed to issue from it naturally in this climate, nor, so far as I can learn, in America.

The benzoine is extracted in the East Indies, by making deep incisions in the upper part of the trunk, about the origin of the first branches: it is said that one tree never yields above three pounds (*b*). The juice exudes white, and concreting on the tree, becomes yellowish, reddish, or brownish; its colour turning darker, the longer it lies exposed to the air. It is brought to us in large brittle masses, composed partly of white, partly of yellowish or light brown, and often also of darker coloured pieces: that which is clearest and contains the most white matter, called by authors *benzoe amygdaloides*, is accounted the best.

THIS resin has very little taste, impressing on the palate only a slight sweetness: its smell, especially when rubbed or heated, is extremely fragrant and agreeable. It totally dissolves in rectified spirit of wine (the impurities excepted, which are generally in very small

(*a*) Linnæus, *Species plantarum*, i. 370.

(*b*) Grimm, *Act. nat. curios. dec. ii. ann. 2. obs. 152.* Rumph. *Herbarium amboinense*.

small quantity), into a deep yellowish red liquor; and in this state discovers to the taste a degree of warmth and pungency as well as sweetness. It imparts, by digestion, to water also, a considerable share of its fragrance, and a slight pungency: the filtered liquor, gently exhaled, leaves, not a resinous or mucilaginous extract, but a crystalline matter, seemingly of a saline nature, amounting, as I have found on several trials, to one tenth or one eighth the weight of the benzoine.

Exposed to a gentle heat, in a retort or other proper vessel, it melts, and sends up into the neck white shining flowers*, similar to the crystals obtained by water. These are followed by a thin yellowish oil, slightly empyreumatic, intermingled with an acidulous liquor; and at length, by a thick butyraceous matter, which, liquefied in boiling water, gives out to it a little more crystalline matter, separable by filtration and proper evaporation: the whole quantity of saline matter obtainable by this method is somewhat greater than that extracted by boiling the benzoine in water. The thin oil, redistilled with water, loses its empyreumatic taint, and in this state smells agreeably of the benzoine, and appears of the same nature with essential oils: the benzoine itself, distilled with water, has not been observed, like most of the other resinous juices, to yield any essential oil.

* Flores ben-
zoini *Pharm.*
Lond. & Edin.

The flowers or crystals of benzoine have a grateful saline taste, and partake of the fragrance of the resin. They dissolve in spirit of wine; and, by the assistance of heat, in water; but from this last, they separate again, in great part, as the liquor cools, shooting into saline spicula, which unite together into irregular masses: the addition of so much sugar, as will reduce the water to the consistence of a syrup, prevents their separation, the flowers continuing suspended in the syrup after it has grown cold. Distilled with water, they arise entire, concreting into their original form, without communicating any smell or taste to the distilled liquor.

These flowers, unless sublimed with a very gentle heat, are apt to be tainted with an empyreumatic smell, and a yellow colour, on account of a little of the oil being forced up with them. From this they may be purified, by mixing them with some dry tobacco-pipe clay, and subliming them afresh; or more perfectly, by solution in water, filtration, and crystallization. Though purified, however, to a snowy whiteness, they are subject, in long keeping, to grow yellow again; a proof, that they are not totally divested of oil.

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They grow sooner yellow in close vessels, than in open ones; the oil, in the latter case, being perhaps carried off by the air in proportion as it is extricated from the saline matter.

The principal use of this fragrant resin is in perfumes, and as a cosmetic; for which last purpose, a solution of it in spirit of wine is mixed with so much water as it is sufficient to render milky*, as twenty times its quantity or more. It promises, however, to be applicable to other uses, and to approach in virtue, as in fragrance, to storax and balsam of Peru. It is said to be of great service in disorders of the breast, for resolving obstructions of the pulmonary vessels, and promoting expectoration: in which intentions the flowers are sometimes given, from three or four grains to fifteen. The white powder, precipitated by water from solutions of the benzoine in spirit†, has been employed by some as similar and superiour to the flowers, but appears to be little other than the pure benzoine in substance: it is not the saline but the resinous matter of the benzoine, that is most disposed to be precipitated from spirit by water. The flowers, snuffed up the nose, are said to be a powerful errhine.

¶Lac virginis.

†Magister.
Benzoini

Ph. Bran. &c.

B E R B E R I S.

BERBERIS seu oxyacantha galeni, Pharm. Edinb. Berberis dumetorum C. B. Spina acida. Crespinus. BARBERRY: a large prickly bush, with brittle branches, covered with an ash-coloured bark, under which lies another of a deep yellow; small, smooth, somewhat oval, pale green leaves, finely serrated about the edges; and yellow monopetalous flowers, standing in clusters on the tops upon naked footstalks, followed by oblong red berries containing, each, generally two seeds: some of the individuals have no seeds in their berries, and sometimes berries with and without seeds are found on one bush. It grows wild on chalky hills in several parts of England, flowers in May, and ripens its fruit in September.

THE fruit of this shrub is a mild restraining acid, acceptable to the stomach, and of great medicinal efficacy in hot bilious disorders and a colliquative or putrid disposition of the humours. Prosper Alpinus informs us, that the Egyptians employ, in ardent and pestilential fevers and in fluxes, a diluted juice of the berries, prepared by macerating them in about twelve times their quantity of water, for a day or a night, with the addition of a little fennel seed or a piece of bread,

bread, and then pressing out and straining the liquor, which is sweetened with sugar, or sugar of roses, or syrup of citrons, and given the patient plentifully to drink: he says he took this medicine himself, with happy success, in a pestilential fever, accompanied with an immoderate bilious diarrhœa (a). Simon Paulli relates, that he was cured of a like disease, by the use of syrup of barberries diluted with water; and that a concrete salt, which he calls tartar, may be obtained from the juice, by mixing two pounds of it with two ounces of lemon juice, digesting them together in a sand-heat for two days, then gently evaporating the filtered liquor to one half, and setting it in a cellar for some days: the tartar, he says, incrustates the sides and bottom of the glass, proves very grateful both to the palate and stomach, and resists febrile heat and the corruption of the humours; from whence it may be presumed to be the essential *acid* salt of the fruit: by further inspissating the remaining juice, more of this saline substance separates in the same manner. Among us, these berries are commonly made into a gelly, by boiling them with an equal weight of fine sugar, over a gentle fire, to a due consistence, and then straining the fluid through a woollen cloth*. By drying the berries, their acidity is abated, and their astringency improved.

* Gelatina
berberorum
Ph. Edinb.

The leaves of the barberry bush have likewise a not ungrateful restringent acid taste, and have sometimes been employed in the same intentions as the fruit, and as an ingredient in cooling salads. The inner yellow bark, in taste austere and bitterish, is said to be gently purgative, and to be serviceable in jaundices: Mr. Ray commends, in this disease, from his own experience, a decoction in ale or other liquors, or rather an infusion in white wine, of the yellow bark both of the branches and the roots. It gives a deep yellow tincture both to watery and spirituous menstrua.

B E T A.

BETA Pharm. Edinb. BEET: a plant with large, smooth, broad-ribbed, juicy leaves; and slender, striated, branched stalks; bearing spikes of imperfect flowers standing in five-leaved cups, followed each by a roundish, rough, warty seed-vessel. Different sorts of this plant, (supposed by Linnæus to be varieties of the wild

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beet

(a) Alpinus, *De medicina Ægyptiorum*, lib. iv. cap. i.

beet found on some of the sea coasts of England and Holland) are cultivated in our culinary gardens: a whitish-leaved called *sicula* or *cicla*, a green-leaved, and a reddish-leaved, all with long thick white roots; and a long-rooted, and a turnep-rooted, all over red. They are all biennial.

BEEETS, used as food, are difficult of digestion, and afford little nourishment: taken in quantity, they tend to loosen the belly, and are supposed by some to be prejudicial to the stomach. Their emollient or laxative virtue is extracted by boiling in water, and may be concentrated, though not without considerable diminution, by inspissating the decoction. The red sorts give out their colour along with their aqueous juice upon expression; and by infusion tinge rectified spirit as well as water of a deep red. The juice, both of the roots and the leaves, of the red and the white beets, snuffed up the nose, proves a powerful errhine, occasioning a copious discharge of mucus without provoking sneezing.

The roots of the beets have, when dry, an agreeable sweetish taste, which is totally extracted by boiling in rectified spirit: the tinctures, on standing some weeks in a cool place, deposite whitish saline concretions, of a saccharine sweetness. Mr. Marggraf observes, that the red beet loses in drying seven eighths of its weight, and the white six eighths; that the dry red beet yields nearly one twenty-sixth its weight of the saccharine salt, and the white sort one sixteenth; and that a good sugar is obtainable from the juice of the fresh roots, by the method practised abroad for preparing it from the sugar cane (a).

B E T O N I C A.

BETONICA Pharm. Edinb. *Vetonica* Cordi. *Betonica purpurea* C. B. BETONY: a low plant, with dark green, oblong, wrinkled, crenated, somewhat hairy leaves, set in pairs; and square unbranched stalks; bearing thick spikes of labiated purplish flowers, each of which is followed by four oblong triangular seeds inclosed in the flower-cup. It grows wild in woody and shady places, flowers in June and July, and in winter dies to the ground, the roots continuing.

THIS herb is recommended as a corroborant and aperient; in obstructions of the viscera; in catarrhal, vertiginous, paralytic, hysteric, and

(a) *Mem. de l'acad. des scienc. de Berlin, pour l'ann. 1749.*

and other disorders both of the nervous and the vascular system. Its virtues have, by many practical writers, been greatly exaggerated; those of the more efficacious medicines to which it was joined, as rue, mint, cloves, guaiacum, and others, being often placed to the account of this favourite ingredient.

The leaves and tops of betony have an agreeable but weak smell, which in keeping is soon dissipated: to the taste, they discover a slight warmth, roughishness and bitterishness. The powder of the dry leaves, snuffed up the nose, provokes sneezing, and hence is sometimes made an ingredient in sternutatory compositions.

Infusions of the leaves in boiling water smell and taste lightly, and not ungratefully of the herb: on inspissating them, the specific flavour of the betony is dissipated, and only a weak bitterishness and a kind of saline austerity remain in the extract. The vapour which exhales in the boiling, caught in distilling vessels, is lightly impregnated with the smell of the betony: when large quantities are distilled at once, a very small portion of essential oil separates, in colour yellowish, in taste moderately warm and pungent, and in smell pretty strong, but somewhat less grateful than the herb in substance. Spirituous tinctures, in colour deep green, discover rather less of the smell and taste of the betony than the watery infusions, though the spirit extracts all the active parts of the herb. On inspissating the filtered tinctures, a considerable part of the odorous matter exhales: the remaining extract has little smell, and a weakly pungent, bitterish, aromatic taste.

The roots are said to be very different in quality from the other parts of the plant; to be nauseous, bitter, purgative, and emetic (a).

B E T U L A.

BETULA Pharm. Edinb. & C. B. BIRCH: a tree or shrub, common in moist woods; with numerous very flexible branches; and somewhat oval, sharp pointed, serrated, deep green leaves, hanging on long and weak pedicles; producing small scaly cones, which contain little winged seeds. The bark, which appears externally white and chapt, consists of a thick brittle substance, of a dark brownish red colour, covered with three or four whitish, very thin, smooth, flexible, tough, semitransparent, membranous coats.

ON

(a) L'Obel, *Adversaria*, p. 229. Ray, *Hist. plant.* p. 551. Caspar Hoffmann, *De med. officinal. lib. ii. cap. xxxvii.* § 6.

On deeply wounding or boring the trunk of the birch tree early in the spring, there issues by degrees a very large quantity of a limpid, watery, sweetish juice. It is said, that one tree will bleed a gallon or two in a day; that the juice extracted near the root is much more watery, and of less taste, than that obtained from the upper part of the trunk or from the branches; and that after the leaves have begun to appear, the juice loses its sweetness and becomes disagreeable. This juice has been drank as an antiscorbutic and deobstruent: it sensibly promotes urine, and, if taken freely, loosens the belly. In keeping, it soon turns sour, unless defended from the air, by covering its surface with a little oil: by fermentation, it is converted into a weak vinous liquor. Inspissated to the consistence of a thin syrup, and set in a cool place for some weeks, it yields brownish saline concretions, approaching, as Marggraf observes, to the nature of manna.

The leaves and the bark of the tree have been employed, chiefly externally, as resolvers, detergents, and antiseptics. Simon Paulli relates, that an universal pruriginous scabies, which had been received by infection, was cured by bathing with a decoction of the bark and young branches, in which some nitre and tartar had been dissolved. With regard to the leaves, they discover to the touch a resinous unctuousity, and to the taste an unpleasant bitterness; rubbed a little, they yield a pretty strong, and not disagreeable, smell. The bark has no smell: the thin membranes have no taste; the thicker brittle part has a slight roughish one. This last gives a pale yellowish tincture to rectified spirit, and a deep yellowish red to water: the watery infusion strikes a brownish black colour with solution of chalybeate vitriol, but immediately throws off the colouring matter and becomes limpid, a phenomenon which I have not observed in other mixtures of this kind: on inspissating the infusion, the remaining extract proves moderately austere.

The bark of this tree has been recommended also in fumigations, for correcting contagious air. The membranes are highly inflammable, in burning yield no particular smell, and give out a resinous exudation of no smell or taste. The brittle part is less inflammable, emits a strong acid vapour and no resin.

B E Z O A R.

B E Z O A R.

BEZOAR: a preternatural or morbid concretion, formed in the bodies of land animals. Several of these kinds of substances have been used medicinally, and distinguished either by the names of the countries from whence they are brought, or of the animals in which they are generated.

I. LAPIS BEZOAR ORIENTALIS *Pharm. Lond.* Oriental bezoar stone: supposed to be produced in the pylorus, or in a cavity at the bottom of the fourth stomach, of an animal of the goat kind, which inhabits the mountains in different parts of Persia. It is said, that the bezoar is found only in the old animals, only in those which feed on some particular mountains (as the eastern one of the tract called Benna in the province of Laar), and only in a few of these; and that, tho' of great value in Europe, it is of greater in Persia itself; from whence it has been inferred, that the generality of the stones, sold under this name in Europe, must be of another original (*a*). Thus much is certain, that artificial compounds have been often substituted in the room of this costly concretion.

The genuine oriental bezoar of the shops is about the size of a kidney-bean (*b*), of a roundish or oblong rounded figure, of an even smooth surface, and of a shining olive or dark greenish colour: on being broken, it appears composed of a number of concentric coats, of which the inner are smooth and glossy as the outer: in the middle is either a cavity, or some powdery matter, or some small bits of the leaves or stalks of plants, or other like substances. The common marks of its genuineness are, its striking a yellow or green colour on white paper that has been rubbed with chalk; a red hot needle not piercing into it, or occasioning any bubbles, but either making no impression at all, or at most taking off only a little scale or crust; and its suffering no diminution of its weight, or disunion of its parts, by steeping in water.

The

(*a*) Kæmpfer, *Amnitates exoticæ*, p. 398 & seqq. Slare, *Dissertation on bezoar*. Neumann, *Chemical works*, p. 534.

(*b*) Mercatus (*Metallotheca*, *armar.* viii. *cap.* i. p. 173) describes a stone of this kind (presented by the king of Portugal to cardinal Alexandrinus) weighing four ounces; so that if equally compact as the common bezoar (whose gravity is to that of water nearly as one and half to one) its volume must have been about five cubic inches.

*Lapis bezoar
præparatus
Pharm. Lond.

The genuine stone has no manifest smell (a) or taste; and is not sensibly acted on by rectified spirit any more than by water. Reduced into an impalpable powder, it retains its greenish hue; which, by moistening the powder, in levigation, with a little spirit of wine*, is somewhat improved. The powder, agitated with water or spirit, subsides uniformly and totally; leaving no greenish matter dissolved in the liquors, as those powders do, in which the bezoar tinct has been imitated by certain vegetable matters. The powdered bezoar dissolves almost totally, and with considerable effervescence, in the acids of nitre and of sea salt; and tinges them of a deep yellow or red colour. The vitriolic acid raises a slight effervescence with it, but dissolves exceeding little. Vinegar likewise acts on it very weakly.

Bezoar was formerly accounted a high alexipharmac; insomuch that the other medicines, possessed, or supposed to be possessed, of alexipharmac powers, have been denominated from it *bezoardics*. It appears, however, that this notion, adopted from the Arabian schools, has no just foundation; and that this calculous concrete, which lies inactive and indigestible in the stomach of the animal in which it is produced, is equally indissoluble and inactive in the human stomach, unless where either a morbid acid is generated in the body, (which is rarely, perhaps never, the case, in the acute diseases wherein bezoar has been chiefly given), or acid liquors are taken along with it. Solutions of it in the nitrous or marine acids, given in doses of a few drops with proper diluents, (the form in which it was used by Kæmpfer) may, doubtless, be of service in acute diseases, as antiseptic and antiphlogistic saline compounds; though not more so than solutions of the common testaceous earths (see *terrea absorbentia*). The bezoar in substance can have no other salutary operation than as an absorbent of acid humours; and appears, from experiment, to be the most weakly absorbent, or the most difficultly acted on by animal and vegetable acids, of all the earthy bodies commonly made use of in this intention. The London college nevertheless, after discarding it from the compound powder of crabs-claws, in which it was originally an ingredient, were in some measure necessitated to allow so much to ancient prejudice, as to direct, for the use of those who may still have some dependance on it, a separate officinal composition, distinguished

(a) The slight ambergris smell, perceivable in some of the oriental bezoars, is supposed to be introduced by art: Cartheuser looks upon those which have this smell as being wholly factitious (*Eudimenta m. m. i. 214*).

distinguished by its name, consisting of one part of the prepared or levigated bezoar and twelve of the crabs claw powder *.

* Pulv. bezo-
ardicus
Pharm. Lond.

2. BEZOARD OCCIDENTALIS *Pharm. Paris.* Occidental bezoar: said to be found in the stomach of an animal of the stag kind, a native of Peru and some other parts of the Spanish West Indies. It is larger than the oriental, from the size of a walnut to that of a hen's egg or more (a): its surface is rough, and the colour less green, being often greyish or brownish without any greenness: it is likewise more brittle, of a looser texture, composed of thicker coats, and exhibits, when broken, a number of fine crystalline striæ curiously interwoven. It is less esteemed than the foregoing; though apparently not inferior, so far as is known, in any respect that can influence its virtue as a medicine. The college of Edinburgh seem to allow either sort to be used indifferently; inserting in their catalogue only the general name *bezoar*.

3. LAPIS SIMIÆ seu bezoard simiæ *Pharm. Paris.* Bezoar of the monkey: said to be found in the stomach of certain monkeys; which are common in the Brasils, and in some parts of the East Indies, but which very rarely produce the admired stone. This species is about the size of a hazel nut, harder than the other bezoars, and of a very dark greenish colour almost black. Its great scarcity has rendered it of more value, and, among some, of more medicinal estimation, than the two foregoing, but prevented its having a place in the shops.

4. CALCULUS HUMANUS, *bezoar microcosmicum quibusdam dictus.* The calculus of the human bladder. This concrete is various in degree of hardness, as well as in appearance, figure, and size: the softer masses are for the most part pretty easily, the harder more difficultly, dissolved (in part at least) by acids, and corroded by soap leys and lime water: other menstrua for them are not known. Some have employed this stone as a succedaneum, and even in preference, to the foregoing costly bodies, and report that they have found it to act as an excellent fudorific and diuretic (b); ascribing to the stony matter the effects of the theriaca, oil of amber, and oil of juniper berries, with which it was joined.

T

5. LAPIS

(a) There are accounts of occidental bezoars of much larger sizes: Mercatus (*ubi supra*, p. 174, 175) describes and figures a stone of this kind weighing no less than fifty-six ounces, though part of the outer crusts had been removed.

(b) Bontius, *Animadversiones in Garciam*, lib. i. cap. 46.

5. LAPIS PORCINUS *Pharm. Paris.* *Lapis malacensis.* *Bezoar hystricis.* *Pedro del porco.* Bezoar of the porcupine: said to be found in the gall-bladder of an Indian porcupine, particularly in the province of Malaca. It is of a roundish figure, of a pale purplish colour, of a soft substance, smooth and slippery to the touch(a). This concrete is of a very different nature from the four preceding: it has an intensely bitter taste, and, on being steeped in water for a very little time, impregnates the fluid with its bitterness, and with aperient, stomachic, and, as is supposed, with alexipharmac virtues. How far it differs in virtue from the similar concretions found in the gall-bladder of the ox and other animals, does not appear.

B I S M U T H U M.

BISMUTHUM five marcasita Pharm. Paris. BISMUTH or TIN-GLASS: a bright whitish pulverable metal; near ten times specifically heavier than water; melting long before ignition, a little sooner than lead, and a little later than tin; sublimable, by a strong fire, into white flowers; calcining, by a continuance of a heat sufficient to keep it melted, into a greyish powder, which on raising the fire runs into a yellow very fusible glass; dissolving with violence in the nitrous acid, and precipitating in form of a bright white powder on diluting the solution largely with pure water; very difficultly acted on by the marine acid, and scarcely at all by the vitriolic; giving out very little to the vegetable acids, but impregnating them with a nauseous taste. It is extracted from an ore found hitherto chiefly in Saxony; by eliquation, or fusion in a small heat without addition. The ore is generally very arsenical: whether the bismuth retains any of the arsenic, has not been sufficiently examined.

This metal remarkably promotes the facility and tenuity of the fusion of other metallic bodies: with lead and tin, it forms compounds which melt in so small a heat as to have been proposed by some for anatomical injections: the proportions, that have been found to compose the most fusible mixtures, are, two parts of lead, three of tin, and five of the bismuth. It likewise remarkably promotes the solution of lead in mercury (see *argentum vivum*) but has not been observed to produce a like effect on other metallic bodies.

The

(a) Mercatus, *metallotbeca, armarium* viii. cap. iii. p. 179.

The white flowers sublimed from this metal*, and the white magistery precipitated by water from its solution in aqua fortis†, have been recommended externally against gleetings sores, and internally as diaphoretics similar to the milder antimonial medicines. In the first intention, they appear to be greatly inferior to some of the saturnine preparations: in the latter, it is not certain what their real effects are, or even whether they are safe. At present, they are employed only as a fucus, nor is this use of them entirely innocent; for they gradually impair the natural complexion, and, as the college of Strasburg observes, occasion a thickness and defecation of the skin.

* Flores bismuthi vulgo.

† Magisterium bismuthi.

B I S T O R T A.

BISTORTA Pharm. Lond. & Edinb. *Bistorta major radice minus intorta* C. B. BISTORT or SNAKEWEED: a plant with oval, pointed, wrinkled leaves, of a dark green colour above and blueish underneath, standing on long pedicles, and continued a little way down the pedicle, forming a narrow margin on each side: among these arise round, slender, jointed, unbranched stalks, furnished with smaller and narrower leaves which have no pedicles; bearing on the top spikes of imperfect five-leaved red flowers, which are followed by triangular seeds. It is perennial, and grows wild in moist meadows in several parts of England.

THE root of this plant is bent and jointed, commonly about the thickness of the finger, surrounded with bushy fibres, of a blackish brown colour on the outside, and reddish within: it is distinguished from the roots of the other bistorts, by being less bent; that of the officinal species having only one or two bendings, and those of the others three or more.

This root has a strong astringent taste, without any manifest smell or particular flavour. It is one of the strongest of the vegetable styptics, and frequently made use of as such, in disorders proceeding from a laxity and debility of the solids, for restraining alvine fluxes, after due evacuations, and other preternatural discharges both serous and sanguineous. It has been sometimes given in intermitting fevers; and sometimes, also, in small doses, as a corroborant and antiseptic, in acute malignant and colliquative fevers; in which intentions, Peruvian bark has now deservedly superseded both this and all the other astringents.

The common dose of bistort root, in substance, is fifteen or twenty grains: in urgent cases, it is extended to a dram. Its astringent matter is totally dissolved both by water and rectified spirit; the root, after the action of a sufficient quantity of either menstruum, remaining insipid: the watery tinctures are of a dark brownish colour, the spirituous of a brownish red. On inspissating the tinctures, the water and spirit arise unflavoured, leaving extracts of intense stypticity.

B I T U M E N ʒ U D A I C U M.

BITUMEN ʒUDAICUM Pb. Lond. *Asphaltus.* JEWS PITCH: a solid, light bituminous substance; of a dusky colour on the outside, and a deep shining black within; of very little taste, and scarcely any smell, unless heated, in which circumstance it emits a strong pitchy one; not soluble in vinous spirits or in oils; difficultly and only imperfectly melting in the fire; and leaving, on being burnt, a large quantity of ashes. It is said to be found plentifully in the earth in several parts of Egypt, and floating on the surface of the dead sea.

ABUNDANCE of virtues are attributed to this bitumen; resolvent, discutient, sudorific, emmenagogue and others. It has long, however, been disregarded in this country: the college of Edinburgh has now expunged it from the catalogue of officinals, and that of London retains it only as an ingredient in one of the compositions which complaisance to antiquity has preserved in the shops. Nor is it, among us, to be often met with; its place being generally supplied by different bituminous substances found in France, Germany, and Switzerland, sometimes by the caput mortuum remaining after the distillation of amber, and sometimes by common pitch. Its melting in the fire only partially or not at all, and the quantity of ashes it leaves in burning, distinguish it from all these substances, and shew, at the same time, that in its most genuine and perfect state it is a very impure bitumen, mixed largely with earthy matter. Distilled in a retort, it yields, according to Neumann, a little insipid phlegm, and about one eleventh its weight of oil, resembling the native petrolea, but of a somewhat more disagreeable empyreumatic smell.

B O L U S.

B O L U S.

BOLE: a friable earthy substance, uniting with water into a smooth paste, adhering to the tongue, and dissolving as it were in the mouth: of the clayie kind, but more readily imbibing water than the clays strictly so called; when moistened, less viscous and cohesive; more easily diffusible through water by agitation; and more freely subsiding from it.

1. **BOLUS ARMENA** *Pharm. Lond.* *Bolus armeniaca Ph. Edinb.*
 Armenian bole, or bole-armenic: of a pale but bright red colour, with a tinge of yellow; harder, and of a less glossy surface, than most of the other boles.

2. **BOLUS GALLICA** *Pharm. Lond. & Edinb.* French bole: of a pale red colour, variegated with irregular specks and veins of whitish and yellow.

MANY other bolar earths have been recommended for medicinal uses, and were formerly ranked among the officinals; as, red boles from Armenia, Lemnos, Strigonium, Portugal, Tuscany, and Livonia yellow boles from Armenia, Tockay, Silesia, Bohemia, and Blois; white boles from Armenia, Lemnos, Nocera, Eretria, Samos, Chio, Malta, Tuscany, and Goltberg. Several of these earths have been commonly made up into little cakes or flat masses, and stamped with certain impressions; from whence they received the name of *terræ sigillatæ* or sealed earths. The Armenian and Lemnian have been generally supposed to be the best, but are rarely met with in the shops: the common French bole, and some bolar earths found in our own country, and even white clay artificially coloured with ochre or colcothar of vitriol, have commonly supplied the place both of those and of the other coloured boles. The substitution of the French to the Armenian, in the several compositions wherein that earth is directed as an ingredient, is now allowed by the London college: and indeed all these earthy bodies, however differing from one another in the degree or species of their colour, or in their texture and compactness, appear, in regard to their medicinal qualities, to be very nearly, if not entirely, alike.

ALL the boles have for their basis one and the same *argillaceous* earth; which is not dissoluble, by the heat of boiling water, in
 acids,

acids, in alkalies, or in any other known menstruum; and which, in a strong heat, grows hard, (contrary to all the other bodies of an earthy or stony nature, which receive from fire a greater or less degree of friability), and at the same time loses its property of imbibing water, and of being reduced thereby into a tenacious mass. The boles and clays, both in their natural state and when indurated by fire, become dissoluble, in part at least, by strongly boiling them in the concentrated vitriolic acid, till the more phlegmatic parts have exhaled, and the matter remains dry. The compound which the earth, by this process, forms with the acid, is of the same nature with alum: it dissolves in water, and may be crystallized into perfect alum, by adding a suitable quantity of any volatile or fixt alkaline salt to saturate the redundant acid, and after due evaporation setting the liquor to shoot (see page 35).

The colours of the boles proceed from a slight admixture of a ferrugineous calx; which may be extracted by digestion in spirit of salt or aqua regis, but is scarcely acted upon by any acid of the vegetable or animal kingdom. Some of them contain a portion of calcareous earth, which is extracted by all acids except the vitriolic, and discovers itself by raising an effervescence on the affusion of the acid. The specimens I examined of the bole of Blois gave out a considerable quantity of this earth, those of the common French bole exceeding little, and the Armenian none: possibly, however, different masses of one kind of bole may differ, in this respect, as much as different boles. All the boles seem to participate also of vitriolic acid; which is so intimately blended with the other matter, as not to be separable, or discoverable, without violence of fire.

The ferrugineous calx and calcareous earth are likewise very intimately blended with the proper bolar matter; insomuch, that when the compound is diffused through water, it settles equally and uniformly without any separation of its parts. If the bole contains any sand or small stones, or has been artificially coloured, the sand, stones, and colouring ingredients, separate in the water, and being heavier than the bolar earth, subside before it. On this principle, the boles may be purified from the gritty matter often intermixed among them, and the natural boles distinguished from artificial compositions.

The medical virtues of the boles appear to depend on the simple bolar or argillaceous earth. As this earth is not dissoluble by any fluid that can exist in the bodies of animals, it can act no otherwise
than

than by imbibing, or giving a greater degree of consistence to thin sharp humours in the first passages, and in some measure defending the solids from their acrimony. In consequence of this virtue, the boles may be of some service in alvine fluxes, cardialgic complaints, and in some kinds of acute diseases; though they are not possessed, as they have been commonly supposed to be, of any truly astringent, or absorbent, and much less of any alexipharmac powers. The sensation of astringency which they generally occasion, in some degree, in the mouth, seems to consist only in their adhering to and drying the part, by imbibing the fluids that moisten it. Their dose is from fifteen or twenty grains to a dram.

B O N U S H E N R I C U S.

BONUS HENRICUS *sive* *lapathum unctuosum* Pharm. Edinb. *Chenopodium* Pharm. Paris. *Tota bona* Dod. *Lapathum unctuosum folio triangulo* C. B. ENGLISH MERCURY: a plant with triangular leaves, covered underneath with a whitish unctuous meal; and striated hollow stalks, partly erect, and partly procumbent, bearing on the top spikes of small imperfect flowers, each of which is followed by a small black seed inclosed in the cup. It is perennial, and grows wild by road sides and in waste grounds.

THE leaves of this plant, to the taste mucilaginous and somewhat unpleasantly subsaline, are accounted emollient; and in this intention have been made an ingredient in decoctions for glysters. They are applied by the common people to flesh wounds and sores, under the notion of drawing and healing. In some places, the young shoots are eaten in the spring as asparagus, and said to loosen the belly, and promote urine.

B O R A G O.

BORAGO Pharm. Edinb. *Buglossum latifolium borrago flore cæruleo* C. B. BORAGE: a very hairy rough plant, with wrinkled blackish green leaves approaching to an oval shape, and round hollow stalks on which the leaves are set alternately: on the tops of the branches come forth blue (sometimes reddish or whitish) monopetalous flowers, each of which is divided into five sharp-pointed segments, and followed by four wrinkled blackish seeds lying naked

in the enlarged cup. It is annual, and grows wild on waste grounds and on old walls.

THE leaves of this plant are very juicy, of no smell, and of hardly any particular taste: they seem nevertheless to contain substances of some medicinal activity, though in too small proportion to be sensible till separated from the herbaceous matter. Mr. Boulduc relates, that a decoction of borage leaves, evaporated to the consistence of a syrup, and set by for a few days, yielded saline crystals, partly in form of fine needles, and partly cubical: that the needled crystals were found to be perfect nitre, and the cubical sea salt: that by passing the decoction through quicklime before the inspissation, both salts were obtained in greater purity and in larger quantity: that the substance of the leaves, remaining after the boiling, being dried and burnt, and the ashes elixated with water, the ley, properly evaporated and set to shoot, yielded first a vitriolated tartar, and afterwards sea salt, the liquor, after the crystallization, proving simply alkaline(a). From this analysis it may be presumed, that the aperient and refrigerating virtues, ascribed to borage leaves, are not wholly without foundation; though these virtues are undoubtedly very weak. Malouin remarks, that the juice of the leaves, (which is not green, like that of most other herbs, but of a brown colour) added to bitter mixtures of the juices of cresses and chervil, dissipates their bitterness.

The flowers of the plant have been principally made use of, and are generally ranked among the cordials. Medicines may act as cordials, either by virtue of some warmth, pungency, or fragrance; or by a saline quality, abating immoderate heat: but borage flowers seem to have little power of operating in either of these intentions. When fresh, they have a very slight smell, of the agreeable kind, which in drying is lost: to the taste, both the flowers in substance, and an extract made from them by water, are only mucilaginous and sweetish.

B O R A X.

BORAX Pharm. Lond. *Borax, tincar, Ph. Edinb.* **BORAX:**
a crystalline salt; difficultly soluble in water; swelling and bubbling up in the fire, and changing into a light white spongy friable matter, which, soon subsiding on a continuance of the fire, melts into a substance

(a) *Memoires de l'acad. des scienc. de Paris, pour l'ann 1734.*

substance resembling glass, but which is still found to be dissoluble in water, though more difficultly than the borax at first. It is composed of the mineral alkali or basis of sea salt (see *natron*) combined with a smaller proportion of a peculiar subacid concrete.

This salt is brought from the East Indies in great masses; consisting partly of large crystals, but chiefly of smaller ones, hexaedral, short, and somewhat flattened, partly white and partly green, joined together as it were by a greasy yellow substance; intermingled with sand, small stones, and other impurities. Of its origin and preparation we have no certain account.

The method of refining and shooting it into large white crystals, (a process first practised at Venice, afterwards in Holland only, and now by some particular persons in England also), is kept a secret. Certain additional matters are suspected to be employed; the refined borax being different in some respects, particularly in its power of vitrefying earthy bodies, from the crystals unrefined or simply purified by solution. The salt is commonly called tincar in its rough state, and borax when purified or refined.

THE purer crystals of tincal dissolve in about eight times their weight of boiling water, but require nearly fourteen times their weight to keep them dissolved in the cold. If hot water be impregnated with more than it can retain when grown cold, the part, which separates in the cooling, forms small irregular grains: by slow evaporation of the aqueous humidity, in a degree of warmth not exceeding that of the air in summer, the crystals prove larger and more regular.

Pure borax has a sweetish somewhat pungent taste, leaving in the mouth an impression like that of alkaline salts, but far milder. Like alkaline salts also, it changes the colour of blue flowers to green, precipitates earthy and metallic bodies dissolved in acids, and renders oils miscible with water into a semisaponaceous liquid; its alkaline basis seeming to be only imperfectly neutralized by its subacid ingredient. It does not, however, sensibly effervesce with acid any more than with alkaline liquors.

It dissolves in acids more easily than in water, and promotes likewise the solution of some vegetable acid salts of themselves difficultly dissoluble. A mixture of borax with twice its weight of tartar dissolves in about one sixth part of the quantity of water that would be necessary for their solution separately: the liquor yields, on
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inspissation,

inspissation, a viscous tenacious mass, which does not crystallize, and which deliquiates in the air. Borax affords also glutinous compounds with all the other acids except the vitriolic. By all the mineral acids, and, as is said, by the acetous, its constituent parts are separable from one another; the acid uniting with the alkaline basis, and disjoining therefrom the subacid ingredient, of the borax.

This analysis is most commodiously effected by the vitriolic acid. A mixture of nine parts of borax, three of oil of vitriol, and one of water, being urged, in a wide-necked retort, with a fire at first gentle and afterwards pretty hastily increased till the vessel becomes red hot; the subacid salt of the borax, called sedative salt, rises into the neck, and concretes into thin shining white plates*. But as this salt proves volatile only while moist, a part of it remains behind, and may be sublimed, like the first, by pouring back on the residuum the liquor that distills, and renewing the operation. The same salt may be obtained more commodiously, though scarcely in so pure a state, by adding the oil of vitriol to the borax dissolved in water, and, after due evaporation, setting the mixture to shoot: the sedative salt crystallizes on the surface, much sooner than the other saline matter, into thin plates; which, uniting together, and growing heavier, fall to the bottom. The salt, which in either case remains after the separation of the sedative salt, is a combination of the vitriolic acid with the alkaline basis of the borax, and has not been observed to differ in any respect from the common combination of that acid with the alkaline basis of sea salt, that is, from the sal mirabile or cathartic salt of Glauber. The sedative salt, joined to the marine alkali, recomposes borax again.

* Sal. sedativ.
Pharm. Paris.

The peculiar and characteristic ingredient of the borax, though called subacid from its property of neutralizing alkalies, scarcely discovers any other mark of acidity. Its taste is bitterish, accompanied with a slight impression of coolness. It makes no change in the colour of blue flowers, and no effervescence with alkalies or with acids. It melts in a moderately strong fire, and assumes a perfect vitreous appearance; but this apparent glass, as well as the salt itself, may be totally sublimed, if repeatedly moistened, by a less degree of heat; and totally, though difficultly, dissolved both by water and by rectified spirit.

It is observable, that the spirituous solution of the sedative salt, set on fire, burns with a green flame; and that borax itself, boiled in spirit, is partially dissolved, and tinges its flame of the same colour.

Perhaps

Perhaps it is principally, or solely, this salt, that the spirit extracts from the borax; for spirit burnt on the alkali of borax, exhibits no greenness.

Borax is accounted an efficacious deobstruent, diuretic, emmenagogue, and promoter of delivery. Its virtues have not as yet been thoroughly ascertained by experience, and are by many questioned; the borax having generally been given in conjunction with other substances, to which the effects, experienced from the compound, may be, in part at least, attributed. Thus, in the powder for promoting delivery, half a dram of the borax (the mean dose of this salt) is accompanied with eleven grains and a quarter of saffron, the same quantity of castor, a drop of oil of cinnamon, and three fourths of a drop of oil of amber*. That the borax itself, however, has really some virtues of this kind, may be presumed from the effects it has been observed to produce when used in large quantity: Trioen relates, that an ounce and an half of borax having been taken by a young woman in mistake for creme of tartar, an uterine hemorrhage succeeded, so profuse, that life was despaired of: the flux was got under by medicines; but the ill state of health, and almost universal œdema, which followed it, were lasting (a).

* Pulvis ad partum P. Ed.

The peculiar saline concrete, extricated from borax by acids, is supposed to be antispasmodic and anodyne, whence its name *sedative salt*. It is said to calm the heat of the blood in burning fevers, to prevent or remove delirious symptoms, and allay, for a time, melancholical, hypochondriachal, and hysterical complaints. It continues in some esteem in France, (where it was first discovered by Mr. Homberg) but has never come into practice among us. Its dose is from three grains to a scruple.

B O T R Y S.

BOTRYS: a low somewhat hairy plant, full of branches, bearing numerous imperfect flowers: the flower stands in a five-leaved cup, which forms a covering to a small roundish seed.

1. **BOTRYS** *Pharm. Edinb.* *Botrys sive ambrosia Pharm. Paris.*
Botrys ambrosioides vulgaris C. B. Jerusalem oak: with oblong pointed, deeply sinuated leaves like those of the oak tree, of a yellowish green colour on the upper side, and purplish underneath: the

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flowers

(a) *Observationum medico-chirurg. fasciculus, p. 18.*

flowers stand in clusters, on divided pedicles, in the bosoms of the leaves.

2. BOTRYS MEXICANA *Pharm. Paris.* *Botrys ambrosioides mexicana* C. B. Mexico tea: with pale green triangular leaves, and undivided flower-stalks.

BOTH these plants are natives of the southern parts of Europe, and sown annually with us in gardens. The leaves and flowery heads have a pretty strong and not unpleasant smell, and a moderately aromatic somewhat bitterish taste: on much handling them, an unctuous resinous juice adheres, in considerable quantity, to the fingers. The proper menstruum of their active matter is rectified spirit: they nevertheless give out their more valuable parts to boiling water also, which they impregnate strongly with their smell, and considerably with their taste. The infusions, (which are not unpalatable) drank as tea, are said to be of service in humoural asthmas and coughs, and other disorders of the breast: they are supposed also to be antispasmodic and antihysterical.

B R A S S I C A.

BRASSICA *Pharm. Edinb.* CABBAGE. *Brassica capitata alba* C. B. White cabbage and coleworts. *Brassica capitata rubra* C. B. Red cabbage. *Brassica rubra* C. B. Red coleworts. *Brassica sabauda: brassica alba capite oblongo non penitus clauso.* C. B. Savoy. *Brassica cauliflora* C. B. Cauliflower. These and the other sorts of cabbages, raised in our culinary gardens, are supposed to be only varieties of the smaller kind, which, in some parts of England, about the sea coasts, is found wild: accordingly they are joined by Linnæus into one species, under the name of *brassica radice caulescente tereti carnosâ*. They are all biennial.

THE several sorts of cabbages are commonly accounted hard of digestion, and of little nourishment, but perhaps not very justly. For as they have manifestly a strong tendency to putrefaction, running into this state sooner than almost any other vegetable, and emitting also during the putrefaction a more offensive smell, nearly approaching to the fetor of the animal kingdom; it does not seem irrational to presume, that of all the oleraceous herbs, cabbages may be the most easily resolvable in the stomach, the most nutritious, and the least remote

remote from the nature of animal food. Thus much is certain, that they are, in general, not unwholesome; that they do not induce, or promote, a putrid disposition in the human body, but on the contrary prove a salubrious aliment in the true putrid scurvy; that when taken freely, they tend to loosen the belly and produce flatulencies; and that their laxative matter is extracted by long boiling in water.

Of all these herbs, the white cabbage is the most putrescible; and the red sweetest, and most emollient or laxative. If the stalks of red cabbage, towards the end of autumn, be cut longitudinally and set by for some time in a place not warm, a laxative juice, resembling honey or manna, exudes from the incisions (*a*). A decoction of this last kind has been greatly recommended in hoarsenesses and some disorders of the breast, for softening acrimonious humours, and promoting expectoration. Boerhaave tells us of very dangerous disorders of the chest cured by the use of a decoction of red cabbage with a little salt and orange juice (*b*).

BRASSICA MARINA.

BRASSICA MARINA, *soldanella*, Pharm. Edinb. *Soldanella*
& *convolvulus maritimus* Pb. Paris. *Soldanella maritima minor* C. B.

SOLDANELLA, SEA COLEWORTS, or SCOTCH SCURVYGRASS: a species of convolvulus, with roundish or kidney-shaped leaves set on long pedicles; and large reddish-purple flowers standing solitary in the bosoms of the leaves. It grows wild about the sea coasts in the north of England, and flowers in June.

THE leaves of soldanella are said to be a strong and a rough cathartic, generally occasioning gripes and disordering the stomach. Their virtue resides in an acrid, bitterish, milky juice, which exudes upon wounding them. In drying, they lose much of their taste, but seem to retain their purgative virtue: a decoction of from half a dram to two or three drams of the dried leaves is directed for a dose. In some places, it is customary among the common people to prepare a strongly purgative liquor by boiling a small handful of the fresh leaves in broth. But as their degree of strength is very little known, and as we have many other medicines, for the same intention, whose qualities

(*a*) Hoffmann, *De remediis domesticis*, § 14.

(*b*) Boerhaave, *hist. plant. hort. Lugd. Bat.* p. 423.

qualities have been ascertained by general experience; the soldanella, though retained in most catalogues of the materia medica, stands excluded from practice.

B R Y O N I A.

BRYONIA ALBA Pharm. Edinb. *Vitis alba sive bryonia* J. B.
Bryonia aspera sive alba baccis rubris C. B. BRYONY or WILD VINE: a perennial rough plant, growing wild in hedges, and climbing on the bushes with curled tendrils. The leaves are in shape somewhat like those of the vine, irregularly pentagonal, with a considerable indentation between every two angles, and the extreme segment longest: in their bosoms come forth clusters of greenish-white bell-shaped monopetalous flowers, divided into five roundish sections, adhering firmly to the cup; succeeded by red berries, containing an extremely viscid pulp with small seeds. The root is very large, sometimes as thick as a man's thigh, of a yellowish or brownish colour on the outside, and white and fungous within.

FRESH bryony root, taken up in the beginning of spring, abounds with a thin milky juice: if the upper part of the root be bared of earth, and the top cut over transversely, the juice continues to rise gradually to the surface, in notable quantity, for two or three days successively, and may be collected by forming a cavity in the middle to receive it. Both the root in substance, and the juice, have a disagreeable smell, and a nauseous, bitter, biting taste: applied for some time to the skin, they inflame or even vesicate the part. On drying the one, or inspissating the other, they lose most of their acrimony, and nearly the whole of their ill scent. In summer, the root proves much less juicy, and weaker both in smell and taste.

This root, taken in powder from a scruple to a dram, proves a strong cathartic. It was formerly given, both as a purge, in maniacal and hydropic cases; and, in smaller doses, as a resolvent and deobstruent, in uterine and asthmatic disorders, in which it is reported to have been of great efficacy. At present it is, in this country, very rarely made use of in either intention; on account, not entirely of the violence of its operation, for purgatives as violent as it are still retained in practice; but partly of its degree of activity, in different states and forms, being very variable, and less ascertained than that of other cathartics in more general use. It is said, that when fresh it

it operates, violently, upwards as well as downwards; and that when dry, it acts with less violence, and chiefly by stool (*a*): that the juice, which issues from it spontaneously, purges mildly in doses of a spoonful (*b*): that the fresh root, bruised and freed from its juice by pressure, and afterwards dried, is still purgative (*c*); and that the expressed juice exsiccated, and the farinaceous fecula which subsides from it on standing*, are of little activity (*d*): that an extract made from the fresh root, by boiling it in wine, and pressing out and inspissating the decoction, operates with sufficient mildness, in doses of from half a dram to a dram (*e*), both by stool and urine; and that infusions in water are chiefly diuretic. Burggrave relates, as from his own knowledge, a pretty remarkable account of the effects of the watery infusion and juice in this last intention. From a fresh root, as thick as can be procured and about a span long, he directs about an inch of the top to be cut off, and a large conical piece to be cut out to two thirds the depth of the root: into this cavity put two ounces or more of sugar-candy in powder, above which insert the cone properly detruncated, and set the root upright in a warm place for twenty-four hours: the sugar being now dissolved by the native juice of the bryony, the excavated part of the root is to be cut off, and one, two, or three slices, from the lower solid part, infused in water. “ Give (says the author) to an hydropic person, one spoonful of the saccharine solution in the morning, and repeat it every two hours till the patient begins to make water profusely, for it will not purge: when great thirst is complained of, give a draught of the infusion, which will likewise not purge, but work still more by urine. Then carefully provide against any ill effects ensuing from the inanition of the abdomen and collapse of the integuments” (*f*).

Externally, the fresh root is employed in cataplasms, as a resolvent and discutient; against tumours both of the scirrhus and œdematous kind,

(*a*) Hermann, *Cynosura m. m. edit. Boecler. i. 141, &c.*—Boulduc’s opinion, of the dry root being strongest (*mem. de l’acad. roy des sci. de Paris, pour l’ann. 1712*) seems to have been deduced from a principle, which cannot be admitted, that the root suffers no other change in drying than the dissipation of its watery humidity.

(*b*) Stoffelius, *apud Joan. Bauhin. hist. plant. tom. ii. p. 143.*

(*c*) Le Mort, *Morley collect. chym. Leydens. p. 120.*

(*d*) Boerhaave, *Hist. plant. Lugd. Bat. p. 497. Geoffroy, m. m. iii. 223.*

(*e*) Geoffroy, *ibid.*

(*f*) Burggrave, *Lexicon medicum, p. 1710.*

* Fœcula bryoniz Ph. Paris

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kind, stagnations and coagulations of blood from external injuries, and ischiadic and other rheumatic pains.

B U G L O S S U M.

BUGLOSSUM SATIVUM Pharm. Edinb. *Buglossum angustifolium majus* C. B. BUGLOSS: a rough plant, greatly resembling borage, and differing from it chiefly in the leaves being narrow, less prickly, not wrinkled, and in colour blueish green; and in the segments of the flowers being obtuse. It grows wild, on waste grounds, in the southern parts of Europe, is cultivated with us in gardens, flowers from June to the end of summer, and in winter dies to the ground, the roots abiding.

THIS plant appears to be nearly similar to borage, in its medicinal qualities as well as in its external form. The principal difference seems to consist, in the leaves being somewhat less juicy, and the roots more mucilaginous. The roots, leaves, and flowers, are ranked among the articles of the materia medica, but are very rarely made use of.

B U G U L A.

BUGULA, consolida media, Pharm. Edinb. *Prunella germanis* Trag. *Consolida media pratensis cærulea* C. B. BUGLE OR MIDDLE CONSOUND: a low plant, with two kinds of stalks; round creeping ones, which strike root at the joints; and upright square ones, hairy on two of the opposite sides, alternately, from joint to joint, bearing loose spikes of blue labiated flowers, of which the upper lip is wanting: the leaves are somewhat oval, soft, slightly cut about the edges, and set in pairs at the joints. It is found wild in woods and moist meadows, and flowers in May.

THE leaves of bugle discover, on first chewing, a sweetish taste, which is followed by a considerable bitterishness and roughishness. Infusions of them, or the expressed juice, are recommended as vulneraries, or as mild astringents and corroborants, in fluxes and other disorders. Some have observed, that they do not bind the belly, like the other *consolidæ*, but that on the contrary decoctions of them are gently laxative, and of great use in phthises and internal
ulcera-

ulcerations(a). The roots of the plant are considerably astringent, as appears both from their taste, and from their striking a black colour with solution of chalybeate vitriol.

B U R S A P A S T O R I S.

BURSA PASTORIS Pharm. Paris. *Bursa pastoris major folio sinuato C. B.* SHEPHERD'S PURSE: a plant with small tetrapetalous whitish flowers along the upper part of the branches, followed each by a triangular seed vessel resembling a purse, whence its name: the lower leaves are for the most part deeply jagged like those of dandelion, and widen from the bottom forwards; those on the stalks are entire, and most of them broadest at the bottom, with a little ear on each side at the juncture with the stalk. It is annual, common in waste grounds, and found in flower from April to the end of summer.

THIS herb has, when fresh, an unpleasant smell, which in drying is dissipated: its taste is almost merely herbaceous. An extract made from the dry leaves by water is somewhat ungratefully mucilaginous and subsaline: an extract made by rectified spirit has somewhat more of an unpleasant, though weak, taste. No pungency or astringency could be perceived either in the leaves themselves or in the extracts; nor did a decoction of them strike any degree of blackness with solution of chalybeate vitriol. There does not appear, therefore, to be much foundation for the strong styptic virtues, for which this herb has been generally recommended by writers on the materia medica; or for the acrid inflammatory power, which Boerhaave (misled probably by its botanic affinity with mustard and some other acrid vegetables), has ascribed to it.

B U X U S.

BUXUS Ph. Lond. & Edinb. *Buxus arborescens C. B.* Box TREE: a small evergreen tree, or shrub, with numerous branches, clothed with firm, shining, somewhat oval leaves: the wood is of a yellow colour, and more compact and ponderous than any of the other European woods: the flowers are imperfect; the fruit, which grows
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(a) La Poterie (*Poterius*) *Pharm. spagy. lib. i. sect. i. cap. 2.*

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on a distinct part of the tree, is a green berry, divided into three cells, containing six small seeds. It is found wild in some parts of England.

THE leaves of this tree have a faint unpleasant smell, which is in great part dissipated in drying, and pretty strongly impregnates water in distillation: their taste is somewhat of the bitter kind, very strong, and very nauseous. It is said, that their effluvia are narcotic; and that the leaves in substance, and infusions or decoctions of them, are aperient and purgative.

The wood gives a bright yellow tincture to spirituous menstrua, and a paler yellow to water. Chewed, in substance, it scarcely discovers any taste: an extract made from it by rectified spirit, which amounts to little more than one fifteenth part of the weight of the wood, is weakly bitterish: by water was obtained nearly one thirtieth its weight, of a stronger tasted, ungratefully saline extract. From these experiments it may be presumed, that boxwood contains little active matter; and that this matter is not of the pungent resinous, but of the saline kind; and consequently that it differs greatly from guaiacum wood, to which it is by many writers supposed to be similar.

C A C A O.

CACAO Pharm. Edinb. CACAO OR CHOCOLATE NUT: an oblong roundish nut, nearly of the shape of an almond, but larger: the shell is dark coloured, brittle, and thin: the kernel is both externally and internally brownish, divided into several unequal portions, which are joined firmly together. It is the produce of a small American tree, (*cacao Sloan. Jam. Amygdalis similis guatimalensis C. B.*) bearing a large red fruit shaped like a cucumber, which contains thirty or more of the nuts. There are several sorts of these nuts in the shops, distinguished by their size, and the places whence they are brought: the larger kind, from the province of Nicaragua in Mexico, is most esteemed.

CACAO nuts have a light agreeable smell, and an unctuous, bitterish, roughish, not ungrateful taste: those of Nicaragua and Caracço are the most agreeable; those of the French Antilles and our own American islands, the most unctuous. All the sorts, thoroughly comminuted and committed to the press, yield a considerable quantity of a fluid oil, of the same general qualities with those obtained from
other

other seeds and kernels: boiled in water, they give out a large proportion, half their weight or more, of a sebaceous matter, which gradually concretes upon the surface as the liquor cools*. For obtaining this product to the best advantage, the faculty of Paris directs the nuts to be slightly roasted in an iron pan, cleared from the rind and germ, levigated on a hot stone, then diluted with a proper quantity of hot water, and kept in a water bath till the oil rises to the top; which, when concremented, looks brown, and by repeated liquefactions in hot water becomes white. This vegetable sebum is not liable to grow rancid in long keeping; and hence is recommended as a basis for odoriferous unguents, and the compositions called apoplectic balsams.

* *Oléum seu butyrum e nucleis cacao Pharm. Paris.*

The principal use of these nuts is for the preparation of the dietetic liquor, chocolate; a mild unctuous fluid, supposed to be serviceable in consumptive disorders, emaciations, and an acrimonious state of the juices in the first passages.

C A L A M I N A R I S.

LAPIS CALAMINARIS Pharm. Lond. & Edinb. Cadmia fossilis, cadmia lapidosa. CALAMINE or CALAMY: a mineral substance, of a greyish, brownish, yellowish, or pale reddish colour, and sometimes of all these colours variously mixed; considerably heavy; and moderately hard, but never sufficiently so to strike fire with steel; when mixed with powdered charcoal, changing copper, by fusion, into a yellow metal, called brass. It is found plentifully in England, Germany, and other countries; either in distinct mines, or intermingled with the ores of lead or other metals.

The matter, which copper imbibes from this mineral in its conversion into brass, separates again from the brass on keeping it melted in an open vessel, and exhales in fumes; which condense, upon such adjacent bodies as are less hot, into white flowers, the same with those into which zinc is converted by fire. A mixture of calamine and powdered charcoal yields by itself, in open vessels, or if the air is admitted, the same flowers: in close vessels, the zinc is revived, and either runs off, or sublimes, in its proper metallic form, into that part of the vessel which is most remote from the action of the fire. The quantity of zinc is variable, as of other metals in their ores: Marggraf informs us, in the Berlin memoirs, that some of the foreign

foreign calamines yielded two sixteenths of their weight, an English calamine three sixteenths, and another English specimen, from Holywell in Flintshire, seven sixteenths: from several parcels of the common calamine of the shops, I have gained nine sixteenths. The most exact way of determining the quantity of zinc appears to be, by mixture with a pretty large proportion of copper; by which the zinc, resolved into fume, is imbibed and detained.

This ore of zinc, employed principally for the making of brass, is for that purpose roasted or calcined; partly with a view to dissipate some sulphureous matter, which the crude mineral is supposed to contain; but chiefly to render it friable, and more easily reducible into fine powder. It is with the ore thus calcined, that the shops are generally supplied: where this cannot be procured, the mineral is heated to a strong red heat, then quenched in water, and this process repeated thrice*. The roasted calamine is levigated into an impalpable powder†, which may be freed from the grosser particles by washing over with water*.

‡ ap. calamin.
preparatus.

* Ph. Edinb.

† Ph. Lond.

In this state it proves, for external purposes, an excellent restringent, desiccative, and epulotic; of great use in collyria, against defluxions of thin acrid humours upon the eyes; and in unguents and cerates, for cutaneous ulcerations and excoriations. The officinal epulotic cerate (commonly called Turner's) is made by melting six ounces of yellow wax in a pint of oil olive, over a gentle fire, sprinkling in six ounces of levigated calamine as soon as the mixture begins to grow stiff, and keeping the whole stirring till grown quite cold†. The college of Edinburgh diminishes the proportion of the calamine, using only five ounces and a quarter to a pint of oil with nine ounces of wax*.

† Cerat. epulotic.
Ph. Lond.

* Ung. e lapid. calam.
Pharm. Edinb.

C A L A M I N T H A.

CALAMINT: a plant with square stalks; the leaves set in pairs; the flowers on branched pedicles, whereof two issue from one joint in the bosoms of the leaves: the upper lip of the flower is divided into two segments, the lower lip into three. It is perennial, and flowers in June and July.

I. CALAMINTHA *Pharm. Lond.* *Calamintha pulegii* *odore seu nepeta C. B.* Calamint, field calamint: with reclining stalks; small, irregularly oval leaves, very slightly indented, without pedicles; and

and the flower stalks longer than the leaves. It grows wild in dry grounds, and by the sides of fields.

This herb has a strong aromatic smell, approaching to that of pennyroyal; and a moderately pungent taste, somewhat like that of spearmint, but warmer. In virtue, it appears to be nearly similar to a mixture of those herbs: infusions of the leaves are drank as tea, in weaknesses of the stomach, flatulent colics, and uterine obstructions.

Water extracts by infusion nearly all the virtues of the calamint; and carries off, in evaporation, the whole of its specific flavour. In distillation with water, there separates from the aqueous fluid a considerable quantity of essential oil, of a very pungent taste, and smelling strongly of the herb. The remaining decoction, thus divested of the aromatic part of the plant, is unpleasantly roughish, bitterish, and mucilaginous.

Rectified spirit extracts the virtues of the calamint more perfectly than water, and gains from it a deep green tincture. On gently distilling the filtered liquor, a part of the flavour of the herb rises with the spirit, and a part remains behind in the inspissated extract. Spirit manifestly brings over more from this plant than from spearmint, and less than from pennyroyal; its active matter being more volatile than that of the one, and less so than that of the other.

2. CALAMINTHA MONTANA *Pharm. Edinb.* *Calamintha vulgaris vel officinarum germaniæ C. B.* Common calamint, so called: with upright stalks; larger, short, serrated, pointed leaves, set on pedicles; and the flower-stalks of the length of the leaves. It is found wild about the sides of highways, but is less common, in this country, than the other.

The leaves of this species are in taste weaker than those of the preceding. Their smell is strong, not like that of pennyroyal, but rather approaching to that of the wild mints, though more agreeable. The essential oils of the two plants differ in flavour as the herbs themselves: in the spirituous extracts the difference is less considerable. They are supposed to agree in virtue, and have been used indiscriminately; the shops being generally supplied with the species which is most easily procurable.

3. CALAMINTHA

3. CALAMINTHA MAGNO FLORE *Pharm. Paris. & C. B.* *Calamintha montana flore magno ex calyce longo J. B.* Mountain calamint: with larger leaves and flowers than the two preceding, but smaller stalks; the leaves set on pedicles, pointed, acutely and deeply serrated like those of nettles; the flower-stalks shorter than the leaves, and of the length of the flowers themselves. It is a native of the southern parts of Europe, and raised with us in gardens.

This species has a moderately pungent taste, and a more agreeable aromatic smell than either of the other calamints. It appears to be the most eligible of the three as a stomachic.

C A L A M U S.

CALAMUS AROMATICUS *Pharm. Lond.* *Acorus verus, calamus aromaticus Pharm, Edinb. & C. B.* CALAMUS or SWEET-SCENTED FLAG: a plant with long, narrow, pointed leaves, like those of the narrow iris, of a bright green colour, divided by the longitudinal rib into two unequal portions, one of which is smooth, the other transversely wrinkled. The flowers are imperfect, and stand thick together, forming an elegant spike like the catkin of the hazel, which rises in the bosom of one of the leaves about the middle of its height. The root, which spreads obliquely under the surface of the earth, is long, crooked, full of joints, about an inch thick, somewhat flattened; externally of a greenish white colour, which changes, in drying, into a brownish yellow; internally white, and of a loose fungous texture.

This plant grows plentifully, in rivulets and marshy places, about Norwich and in some other parts of this kingdom, and, as is said, in the canals of Holland: the flowers appear in July, the leaves die in the winter, the roots are perennial. The shops have been usually supplied from the Levant with dried roots, not superiour, and scarcely equal, to those of our own growth.

THE roots of calamus have a moderately strong aromatic smell, and a warm, pungent, bitterish taste. Their flavour, when fresh, is unpleasant, approaching in some degree to that of leeks or garlic: by drying, it is greatly improved, but does not become truly grateful. Some report them to be superiour in aromatic flavour to any other vegetables

vegetables produced in these northern climates; but the specimens I examined fell short, in this respect, of many of our common plants.

Infusions of calamus in water smell strongly of the root, and have a moderately warm and very bitter taste: spirit, applied after water, receives no smell, and scarcely any taste. Tinctures of the root in rectified spirit are warmer and more pungent than the watery infusion, but much less bitter, and of very little smell: water, applied after spirit, gains a considerable bitterness, but no smell. It appears, therefore, that water is the most perfect menstruum of the bitter matter, as rectified spirit is of the aromatic; and that the smell of the calamus is covered or suppressed by spirit. The tinctures in both menstrua are of a yellow or brown colour, according as they are less or more saturated.

In distillation with water, there arises a small quantity of essential oil, amounting only to about two ounces from sixty-six pounds of the root (*a*): both the oil and distilled water have a strong smell, somewhat less grateful than that of the root in substance: the remaining decoction, thus deprived of the aromatic matter, is nauseously bitter. On distilling the spirituous tincture, the distilled spirit has scarcely any smell or taste of the calamus: the extract, nevertheless, has very little smell, and much less taste than might have been expected in the extract of so warm a root.

Calamus aromaticus was formerly held in considerable esteem as a warm stomachic; and was commonly made an ingredient in bitter tinctures and infusions: among us, it has given place, in this intention, to bitters of a more grateful kind. The root, candied, is said to be used at Constantinople as a preservative against contagion.

C A L E N D U L A.

CALENDULA Ph. Edinb. *Caltha vulgaris* C.B. SINGLE MARIGOLD: a plant, with oblong undivided leaves, joined close to the stalk, widening from thence to the extremity, juicy, and somewhat clammy to the touch; and moderately large, bright yellow or gold coloured flowers, composed of a number of indented petals standing round a middle disk, on which, after the flower has fallen, several rough crooked seeds lie naked. It is annual, common in gardens, propagates itself by seeds, and flowers from May to the end of autumn.

MARIGOLD

(*a*) Hoffmann, *Observat. physico-chym.* lib. i. obs. 1;

MARIGOLD flowers have been recommended as aperients in uterine obstructions and icteric disorders; as sudorifics, alexipharmacs, and for promoting eruption in malignant and exanthematous fevers. They appear, from their sensible qualities, to be of little activity: when fresh, they have a faint unpleasant smell, which is lost in drying: their taste is chiefly mucilaginous, with a slight bitterishness. They give a pale yellow tincture to water, and a deeper yellow to spirit: the watery infusion has the most smell, and the spirituous the most taste of the flowers. The extract, obtained by inspissating the spirituous tincture, is bitterish and slightly roughish: the watery extract is a tenacious mucilage, of less taste than the other.

The leaves of the plant appear to be of greater virtue than the flowers. Chewed, they impress at first a viscid sweetness, which is followed by a penetrating pungency, very durable in the mouth, not of the hot or aromatic, but rather of the subsaline kind. Their expressed juice, which contains great part of the pungent matter of the herb, has been given, in doses of two or three ounces or more, as an aperient; and is said to loosen the belly, and promote the natural secretions in general.

C A L X V I V A.

CALX VIVA Pharm. Lond. & Edinb. QUICKLIME: an acrimonious, friable substance; dissolving, very readily, in the nitrous marine, and vegetable acids; uniting with the vitriolic acid into an indissoluble and nearly insipid concrete; producing heat on the affusion of water, partly dissolving in the water, and impregnating it with a strong taste.

Quicklime is prepared, about London, chiefly from chalk; in other parts of the kingdom, from different sorts of stones called, from their use, limestones; by calcining them, in kilns made for this purpose, with a strong fire. All the native mineral earths and stones, that dissolve in acids, and all the sea shells that have been tried, are reduced by fire into quicklime; and suffer, in the calcination, a great diminution of their weight. If the lime be exposed long to the atmosphere, it falls by degrees into powder, increases in weight, loses of its acrimony, and at last becomes similar in quality to what the earth was before calcination: it retains its acrimony much longer in a moist than a dry state.

THE

THE earths and stones, from which quicklime is produced, contain a large quantity of air, which in calcination is expelled: hence strong quicklime raises no effervescence, or emits no air-bubbles (which the crude earths do in great abundance) during its dissolution in acids. Dr. Black looks upon the proper calcareous matter as a substance, which is in its pure state quicklime; which, by the simple coalition of air with it, loses its acrimony, solubility in water, and other distinguishing characters; and which, on the bare separation of this incorporated air, proves quicklime again (*a*). Thus much appears demonstrated, that either the qualities of the calcareous matter are affected by the air itself imbibed or expelled, or that both (in all the experiments hitherto known) are equally affected by some other cause: in either case, the discovery is valuable in regard to practical utility; the calcareous earths and stones becoming quicklime by all those means by which air is expelled from them, whether calcination by fire, or solution in acids and precipitation with substances void of air; and quicklime losing its qualities by all those means by which air is introduced, whether direct exposure to the atmosphere, or commixture with certain other bodies from which it instantaneously absorbs the aerial matter.

Quicklime is employed for increasing the activity of alkaline salts: if water, strongly impregnated with the lime be gradually added to a solution of fixt alkali, the calcareous matter separates and subsides, satiated with air, and no longer acrid or dissoluble in water; the alkali at the same time losing its air, so as to make no effervescence with acids, and proving in this state much more acrid than at first; see *sales alkalini*. Quicklime is sometimes used also in external applications as a depilatory; and has been sometimes made into an unguent with honey for rheumatic and other obstinate fixt pains of the joints or limbs: this unguent is greatly commended by Fuller, who observes that it is almost caustic.

Solutions of the calcareous matter in water are given internally, with great safety, and in many cases with great advantage. For this purpose, a gallon and a half * or two gallons † of water are poured by degrees upon a pound of fresh burnt quicklime, the vessel shaken when the ebullition ceases, and then set by till the undissolved lime has settled; after which, the liquor is poured off, and passed through a filter. Only a small portion of the lime is dissolved by the water,

Aqua calcis.
* *Phar. Lond.*
† *Ph. Edinb.*

Y

and

(*a*) *Edinburgh essays physical and literary*, vol. ii. art. 8.

and the remainder gives a strong impregnation to large quantities of fresh water, though not so strong as to the first; great part remaining at last undissolved: this residuum, calcined again, becomes quicklime as before; and by repetitions of this process nearly the whole may be dissolved.

The solution has a strong, styptic kind of taste. It changes the juices of blue flowers to a green colour; precipitates metallic bodies dissolved in acids; tinges silver of a coppery hue; and turns red wine to a dark colour: by these properties, the strength of its impregnation with the calcareous matter may be in some measure estimated. The specific gravity of the liquor is increased by the lime, in a much greater ratio than the small quantity taken up can effect by the apposition of its own weight (*a*); on account, perhaps, of the air, contained in the water, being absorbed by the undissolved part of the lime. In vessels quite filled with the lime-water, and exactly closed, it may be kept unchanged for many months: in open vessels, the calcareous matter soon separates from the aqueous fluid, and concretes upon the surface into a crust, insipid and indissoluble as the earth in its natural state, and again convertible into quicklime by a repetition of the calcination. The separation of the dissolved lime is promoted by heat; by a boiling heat, a part of it seems to be dissipated; a circumstance to be attended to in the application of this fluid as a menstruum. When required to dissolve bodies which it does not act on without a boiling heat, quicklime in substance is to be added, to continue the impregnation of the water.

Lime-water dissolves, by the assistance of heat, mineral sulphur, vegetable oils and resins, and animal fats: it extracts, in the cold, the virtues of fundry resinous and oily vegetables, and dissolves thick phlegm or mucous matters, and the curd of milk; with which last it forms a white liquid, nearly similar in appearance to milk in its natural state. It has lately been found to dissolve also the human calculus, particularly the lime-water prepared from calcined oyster-shells, which proves a more active menstruum for this concrete (and possibly for other substances also) than that made from the stone limes; the dissolving power of the oyster-shell lime-water seeming, from Dr. Whytt's experiments, to be more than double to that of the stone lime-waters (*b*). Taken internally, in considerable quantity, it

(*a*) Whytt, *Edinb. ess. & of. phys. & lit. vol. I. art. xiii. p. 383.*

(*b*) *Edinb. medical essays, vol. V. art. 19.* See on this subject his *treatise on the virtues of lime-water.*

it impregnates the urine in some degree with its lithontriptic power, and in sundry calculous cases has happily given relief.

Lime-water, drank to the quantity of a quarter of a pint three or four times a day, has been found serviceable in scrophulous complaints, fluxes, seminal weaknesses, and other disorders proceeding from an impurity of the fluids, or laxity and debility of the solids. It generally promotes urine; oftentimes the cuticular discharge; and where the stomach is oppressed with viscid phlegm, expectoration. It for the most part binds the belly, and sometimes occasions a troublesome costiveness, unless this effect be occasionally provided against by the interposition of proper laxatives. It answers best in cold, sluggish, phlegmatic, and corpulent habits; and is to be used more cautiously in hot bilious dispositions, and where the patient is greatly emaciated, or the appetite weak, and at the time of any critical or periodical evacuation.

It is customary to impregnate lime-water with different materials, partly for rendering it more acceptable to the palate and stomach, and partly for improving its medicinal efficacy against cutaneous defecations. The college of Edinburgh directs, in this view, three ounces of the shavings of the wood and bark of saffrafras, one ounce and a half of shaved liquorice, and four drams and a half of bruised nutmegs*; the college of London, half an ounce of saffrafras bark and one ounce of liquorice†, with the addition, in some cases, of four ounces of rasped guaiacum wood and three drams of coriander seeds‡; to be macerated for four days in three quarts of lime-water, and the liquor strained off for use. These infusions are taken in the same quantities as the simple lime-water, by themselves, or with the addition of milk.

Aqua calcis.

* *composita Pharm. Edinb.*

† *minus comp. Pharm. Lond.*

‡ *magis comp. Pharm. Lond.*

C A M P H O R A.

CAMPHORA Ph. Lond. & Edinb. Caphura. CAMPHOR: a solid concrete, somewhat unctuous to the touch; totally volatile in the heat of boiling water, and subliming unaltered; melting in a less degree of heat into the appearance of oil; readily taking fire on a red hot iron, and burning entirely away; with a bright white flame, and copious fumes which condensing form soot; soluble in spirit of wine, and in oils, and in the nitrous and vitriolic acids, not in water, nor in vegetable acids. From the nitrous acid, diluted with

a little water, it absorbs the stronger acid matter, and forms therewith a substance like oil, which floats on the surface of the more phlegmatic liquor: with the vitriolic, it mingles uniformly into a yellowish red fluid.

Camphor is extracted, by a process similar to that by which essential oils are obtained, from the wood and roots of a large tree of the bay kind, growing in Japan, called by Linnæus *laurus foliis trinerviis lanceolato-ovatis: nervis supra basin unitis*. A species of camphor is said to be sometimes likewise found naturally concreted into little grains, in the medullary part of this and some other trees.

As first sublimed or distilled from the wood, it appears brownish, and composed of semipellucid grains mixed with some impure matter. In this state, it is imported by the Dutch, and purified by a second sublimation, by which it becomes clear and white: this last process is so managed, that the head of the subliming glass is kept warm enough, to make the camphor run together into a mass of its own figure; in which form it is brought into the shops. It may likewise be purified by solution in spirit of wine; recovered from the spirit by distillation, the spirit rising before the camphor; and afterwards formed into loaves by fusion, with a gentle heat, in a close vessel.

THIS concrete has a fragrant smell, somewhat approaching to that of rosemary, but much stronger; and a bitterish, aromatic, pungent taste, accompanied with an impression of coolness. It is looked upon as one of the principal diaphoretics and antiseptics, and as possessing some degree of an anodyne or antispasmodic power. It is apparently of great subtilty and penetration, quickly diffusing itself through the habit in a very sensible manner: taken in any considerable quantity, it generally produces very uneasy sensations about the stomach and præcordia, and often in the remoter parts; though it does not heat the body near so much, as might be expected from the great pungency of its taste. Hoffmann reports, that doses even of half a dram did not increase the pulse, or excite any immoderate heat, but occasioned rather a sense of coolness; and that on continuing the use of the camphor for some time, the blood became more fluid, and the quantity of watery serum, which the habit before abounded with, was notably diminished.

In

In acute diseases, this medicine is given from a quarter of a grain to one or two grains, and sometimes more, in conjunction commonly with nitre, or other substances of the anti-inflammatory saline kind. Hoffmann observes (*a*), that it answers best on the approach of a crisis, or in the decline: that it is to be used with caution during the increase, and when the fever is at the height, more especially where the internal heat is great, moisture deficient, and the skin dry: and that it is sparingly to be given also when nature is weak; where a tumidness and redness of the face, with vertiginous complaints, torpor, and sleepiness, shew the vessels of the head to be distended; as also in palsies, convulsions, and in plethoric and costive habits.

In chronical disorders proceeding from a redundancy of ferous defluxions or from an impurity of the humours, and as an assistant to mercurial alteratives, it is used more freely, and with less danger: in some cases a little opium is joined, which prevents the uneasiness that camphor of itself is apt to produce, and at the same time increases its operation by sweat, a mixture of camphor and opium being one of the most potent sudorifics. Some recommend camphor to be given in maniacal cases, to the quantity of half a dram every night or oftener; and instances have been produced (*b*) of this practice being attended with success.

It has been generally supposed that this concrete corrects the irritating power of cantharides and other acrid stimulating medicines. It apparently corrects, in a considerable degree, the more active mercurial preparations; that is, it determines their operation to the cuticular excretories, and by promoting their diaphoretic restrains their purgative or emetic virtue: but how far it varies the action of cantharides, and the stimulants, purgatives, and emetics, of the vegetable kingdom, is not as yet certainly known.

Camphor may be dissolved in watery liquors, and thus fitted for being commodiously taken, by grinding it with sugar, almonds, or thick mucilages, and adding the water by degrees. A dram of camphor (rubbed with a few drops of rectified spirit of wine, till it grows soft) requires about four drams of fine sugar: a pint of boiling water is poured on this mixture, the vessel closely covered, and the liquor, when grown cold, strained out for use*. Vinegar also, by this treatment, dissolves the camphor equally with water; and

* Julep. c.
camphora
Pharm. Lond.

(*a*) *Diff. de usu camphoræ securissimo & præstantissimo; & Med. rational. de febrib. passim.*

(*b*) *Philosophical transactions, n. 400. Svenska vetenskaps acad. handl. tom. V. ann. 1744.*

and is often preferred, in acute diseases, whether putrid or inflammatory, as rendering the julep somewhat more grateful both to the palate and stomach, and excellently coinciding with the medicinal intention. The whole of the camphor, however, is not dissolved by either; a part, and generally a considerable one, remaining behind upon the strainer. Almonds or mucilages render it completely dissoluble into an emulsion or milky form. The above quantity of camphor requires about twelve almonds; to which mixture a pint of some suitable aqueous fluid, as the distilled water of pennyroyal, is commonly added, and half an ounce of fine sugar dissolved in the strained liquor†. In this form, vinegar or other acids can have no place, as they coagulate the emulsion, or at least render it incapable of keeping the camphor dissolved: but nitre may be added in any quantity that may be thought proper, this neutral salt mingling uniformly with the liquor, and producing no separation of its parts. Emulsions made with mucilages admit nitre likewise but not acids.

† Emulsi-
o camphorata
Ph. m. Edinb.

‡ Spi it. vin.
camphorat.
Ph. L. & E.

A solution of camphor in rectified spirit of wine, in the proportion of an ounce to a pint‡, is employed externally against rheumatic pains and paralytic numbnesses, for discussing tumours and inflammations, and restraining the progress of gangrenes. On diluting this solution with watery liquors, the mixture becomes milky, and on standing for some time greatest part of the camphor separates. It has been said, that with spirit of sal ammoniac made by quicklime, and with saturated alkaline lixivium, it mingles without separation: but, on trial, it turned milky with the former, in the same manner as with water; and with the latter it did not mingle at all, the camphorated spirit swimming distinct upon the surface of the alkaline ley. It has been reported also, that a camphorated spirit, uniformly miscible with water, may be obtained, by grinding the camphor with somewhat more than equal its weight of fixt alkaline salt, then adding a proper quantity of proof spirit, and drawing off one half by distillation. This spirit, however, does not answer expectation: the quantity of camphor that rises with it is exceeding small, greatest part remaining behind in the distilling vessel: hence, though when the spirit is mixed with a large quantity of water it occasions no sensible turbidness, yet when mixed with only a little water it exhibits the same appearances as the common solution, differing no otherwise than in degree.

Camphor is used also in unguents, for burns, itchings, and serpiginous eruptions on the skin: for these purposes, a dram and a half of

M A T E R I A M E D I C A.

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of camphor, first ground with a few drops of oil, are mixed with a pound * or a pound and a half † of the white ointment. It is mixed, in a larger proportion, with cataplasms for the throat against inflammations of the uvula and tonsils; and dissolved, for rheumatic and other pains, in fresh drawn oil of almonds or linseed, in the proportion of one part of camphor, to two of the oil ‡. Hoffmann reports, that a solution of camphor, in empyreumatic vegetable oils that have been rectified by distillation from quicklime, procures immediate relief in some kinds of violent pains (a).

Ung. album
camphoratum

* Pb. Edinb.

† Pb. Lond.

‡ Ol. campho-
rat. Pb. Edin.

C A N C R O R U M C H E L Æ.

CHELÆ CANCRORUM Pharm. Lond. & Edinb. CRABS

CLAWS: the black tips of the claws of the *cancer marinus* or common sea crab.

This testaceous matter, levigated into an impalpable powder*, is made use of for absorbing acidities in the first passages, (see *terrea absorbentia*) and makes the basis of the compound absorbent powders of the shops: to four parts of the prepared claws, the college of Edinburgh joins two of prepared red coral†, that of London, one part of coral and one of pearl‡. All these three ingredients consist of the same *calcareous animal earth*: how far any of them is superiour, as a medicine, to the others, or any composition of them to any one of the three separately, does not appear. The distinguishing characters of this kind of earth are, its being convertible, by calcination with a strong fire, into quicklime; its not perfectly vitrefying with vitreous fluxes, but rendering the flux or glass opaque and white; its being dissoluble in all acids except the vitriolic, and precipitable by this last from the others.

*Che'æ canc.
preparatæ P.
Lond. & Edin.

Pulv. e chelis
cancr. comp.

† Pb. Edinb.

‡ Pb. Lond.

C A N C R O R U M O C U L I.

CANCRO RUM OCULI dicti Pharm. Lond. & Edinb. Can-

crorum lapides. CRABS EYES, so called: stony concretions, found in the head, or rather stomach, of the *asflacus fluviatilis* or river craw fish; generally about the size of peas, or larger; of a roundish shape, flatted on one side; in colour white, sometimes with a reddish, and sometimes with a blueish cast; internally of a leafy texture.

They

(a) In notis ad Poterium, p. 483.

They are said to be brought to us chiefly from Holland: perhaps the greatest quantities are the produce of Muscovy, particularly of the river Don, where the craw fish, as I have been informed, are extremely plentiful, and have been commonly laid in heaps to putrefy, after which the stones are picked out.

These stones are said to be sometimes counterfeited with tobacco-pipe clay, or chalk mixed with glutinous materials. Compositions of this kind may be readily distinguished from the genuine crabs-eye, by their texture being uniform and not leafy, and by their sticking to the tongue and being softened with water. They differ also in their habitude to acids; either not dissolving at all, or dissolving in another manner.

If genuine crabs-eyes be put entire into strong vinegar, or into aqua fortis largely diluted with water; their earthy part is gradually extracted, and there remains a soft transparent gelatinous substance, of the same figure with the original concrete: such as were at first coloured, retain their colour after the action of the acid. The quantity of this gelatinous matter is much less than might be judged from the volume which it occupies; amounting, when the nitrous acid has been used, scarcely to one tenth part of the weight of the crabs-eyes: vinegar leaves a larger quantity, a part of the earth itself seeming to escape the action of this acid.

Crabs-eyes are used as an absorbent of acid humours, (see *terrea absorbentia*) and are supposed, when combined with the acid, to be more aperient and resolvent than most of the other absorbent earths: in this intention they are commended by Hoffmann, who looks upon a solution of them in vinegar as capable of resolving both stagnant thick humours and coagulated blood. Their earth differs remarkably from that of the preceding article, in not being convertible into quicklime; but the medical differences of their solutions in vinegar, or in other acids of the vegetable or animal kingdom, do not appear to be very great, the solutions of the two earths being in taste nearly alike. The earth of crabs-eyes, in regard to its chemical characters, is of the same nature with that of hartshorn.

C A N E L L A.

CANELLA ALBA Pharm. Lond. *Canella alba, falso cortex winteranus* Pharm. Edinb. *Canella alba & costus corticosus* Ph. Paris. *Cinamomum sive canella tubis minoribus alba* C. B. CANELLA ALBA

OR WILD CINNAMON: the inner bark of a large bay-leaved tree, growing in the low lands of Jamaica and other American islands: brought over in the form of quills; of which some are large and thick, taken from the trunk of the tree; others slenderer and thinner, from the branches; having generally pieces of a wrinkled brownish coat adhering to the outside; lined on the inside with a fine white membrane; breaking over with a close even surface, and appearing internally of an unequal, pale, brownish or yellowish white colour.

CANELLA ALBA has hitherto been rarely employed in medicine, unless as a substitute for Winter's bark, which it pretty much resembles, and has been commonly mistaken for; see *Winteranus cortex*. The London college has now received it in two officinal compositions, for alleviating the ill flavour of aloes. It is a moderately warm aromatic; of an agreeable smell, somewhat resembling that of cloves but far weaker; and of a pungent taste, accompanied with a considerable bitterishness.

Infusions of it in water are of a yellowish colour, and smell moderately of the canella, but in taste are rather bitter than aromatic. Tinctures made in rectified spirit are of a darker reddish yellow colour, and have more of the aromatic warmth of the bark, but very little of its smell. Tinctures in proof spirit are more agreeable than either; this menstruum dissolving the aromatic as well as the bitter matter of the canella, without covering or suppressing its flavour like the pure spirit.

In distillation with water, it yields an essential oil, of a dark yellowish colour, of a thick tenacious consistence, difficultly separable from the aqueous fluid, in smell sufficiently grateful, though rather less so than the bark itself: the remaining decoction, inspissated, leaves an extract of great bitterness, in consistence not uniform, seemingly composed of a resinous and gummy matter imperfectly mixed. On inspissating the spirituous tincture, the spirit, which distils, has no great smell or taste of the canella, but is so far impregnated with its more volatile oil as to turn milky on the admixture

of water: the remaining extract retains the bitterness of the bark, but has little more of its warmth or flavour than the extract made with water.

C A N N A B I S.

CANNABIS Pharm. Edinb. & C. B. HEMP: a tall annual herb, with digitated leaves, cultivated in fields on account of the mechanic uses of its tough rind. Some of the plants, called female, produce flowers; composed of yellowish stamina set in five-leaved cups. Others, called male, produce seeds; moderately large, covered with a shining dark grey-coloured shell; under which is lodged a white kernel.

THIS plant has a rank smell, of the narcotic kind, and is supposed to be prejudicial to health. It is said that the effluvia of the fresh herb weaken the eyes, and affect the head (*a*): and that the water, in which the herb has been steeped for facilitating the separation of the tough rind, is a violent and sudden poison (*b*). The deleterious power of this liquor may depend, however, not solely on the specific virtues of the hemp, but in great part on the strong putrid taint which the soluble matter of the herb contracts during the process: for flax, a plant not suspected of any hurtful qualities, is reckoned to give a like poisonous impregnation to the water in which it is long macerated; insomuch that the steeping of one, as well as of the other, in spring or running waters, or ponds in which cattle drink, is prohibited by law (*b*). The leaves of an oriental hemp, called *bangue* or *bang*, and by the Egyptians *assis*, are said to be used, in the eastern countries, as a narcotic, stupefacient, and aphrodisiac (*c*).

The seeds of hemp, when fresh, have a faint smell of the herb, which is dissipated in keeping: their taste is unctuous and somewhat sweetish. They yield upon expression a considerable quantity of insipid oil; and unite with water, by trituration, into an emulsion. Decoctions of them in milk, and the emulsions, have been recommended against coughs, heat of urine, &c. in which cases they may be of service, as emollients and obtunders of acrimony: but the virtues attributed to them against incontinence of urine, and for restraining

(*a*) Lindestolpe, *De venenis*, edit. Stentzel. cap. x. thes. xiii. p. 541.

(*b*) Ray, *Hist. plant.* i. 159.

(*c*) Kämpfer, *Amanitates exot.* p. 645. Alpinus, *De med. Ægypt.* lib. iv. cap. 2.

restraining venereal appetites, appear to have less, if any foundation. They are said to be used in some places as food; and, when taken freely, to affect the head (a).

C A N T H A R I D E S.

CANTHARIDES Pharm. Lond. & Edinb. CANTHARIDES or SPANISH FLIES: an insect of the beetle kind, generally about half an inch in length; on the upper side, of a shining green colour, variegated with more or less of a blue and a gold yellow; on the lower, brownish. These insects are frequent in Spain, Italy, and the southern parts of France: they are collected from herbs and bushes, killed by the steam of strong vinegar, and afterwards dried in the sun. The largest and best are said to come from Italy. They should be chosen fresh coloured, entire, and free from dust: on long keeping, they are apt to rot, lose of their colour, and become powdery.

CANTHARIDES have little or no smell, unless the quantity is large; in which case they yield a faint disagreeable one. Cautiously tasted, they impress a slight sense of acrimony: those who describe the taste as highly acrimonious and caustic, have probably judged, not from the direct sensation of taste, but from the consequential effects. Applied to the skin, they first inflame, and afterwards excoriate the part; raising a more perfect blister, and producing a more plentiful discharge of serum, than any of the vegetable acrids. Hence their common use as a vesicatory.

Vesicatories are employed, either as a general stimulus, for raising the pulse and quickening the circulation, in low fevers, and in lethargic disorders; or for resolving topical obstructions. Fixt pains, whether external or internal, as in the rheumatism, sciatica, dysentery, pleurifies and peripneumonies, are frequently observed to yield to a blister upon the part; though frequently also the matter is lodged so deep as to be beyond the reach of this as well as of other external medicines. Blisters are likewise applied to the head in epileptic and maniacal disorders, inveterate and periodic headachs, and obstinate defluxions on the eyes, in which cases they are not to be considered merely as topical remedies: Hoffmann relates, that in defluxions on the eyes, he has known a blister, applied as usual to the nape of the

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neck,

(a) Ray, *Hist. plant.* p. 158.

neck, increase the pain; whilst one laid on the soles procured relief as soon as the discharge from its operation took place. Blisters on the head give the least pain.

*Emplast.epi-
spastic. *Pb. L.*

† Emp. vesicatorium
Pharm. Lond.

‡ Emp. epis-
past. comp.
Pharm. Edinb.

§ Epithema
velicatorium
Pb. Londinens

* Ung. ad ve
ficatoria P. L.

§ Ung. epif.

The blistering applications are generally composed of reduced into fine powder and mixed with plasters or other of a due consistence. Three ounces of the powder and three of Venice turpentine and ten of Burgundy pitch mixed or into six ounces of the drawing plaster with the quarter of a pint of vinegar†. This last ingredient is to promote or facilitate the action of the cantharides; for where the plaster without vinegar has failed of taking, removing it and washing the part with vinegar, the plaster applied again, has blistered freely: it is probable, however, was owing, not so much to any peculiar quality of the vinegar, as its softening and deterging the skin; an effect which is to be expected from it when mixed with the other ingredients of the plaster. Other stimulating ingredients are sometimes used, as pepper, mustard-seed, and verdegris‡; but it does not appear that these kinds of substances give any material assistance to the action of cantharides. The powdered flies spread on the surface of the common plaster operate as effectually as any of the compounds of this form they are often used.

In some cases, as in variolous eruptions or other inec
skin, compositions of a softer consistence than plaster
that they may apply themselves to the depressed pa
purposes, equal quantities of finely powdered cantharid
flour are mixed with vinegar into a paste§. Whe
intended to be made perpetual, or continued, as a cor
ferous humours, for a considerable time, some canthar
occasionally in the dressings, to keep the ulcers open:
this intention are prepared in the shops, by melting t
parts of the blistering-plaster and hogs lard, and keeping
till grown cold*; or by melting twenty-four parts
eight of yellow wax, then adding three of powdered ca
afterwards twenty-four of Venice turpentine.†.

plasters, in such proportion, that the quantity of the fly may be about one twenty-sixth part of the whole compound*.

* Emplastrum
calidum
Nosocom. Edin.

The external use of cantharides, if the quantity applied be considerable, is generally followed with a strangury and heat of urine; this insect being peculiarly disposed to affect the urinary organs, though applied to the remotest parts. This inconvenience is prevented, or remedied, by emulsions or mucilaginous liquors plentifully drank.

SMALL doses of cantharides are given internally, in suppressions of urine, and for deterging ulcerations of the bladder. They have likewise been found remarkably serviceable in feminal weaknesses and old gleet; in which the balsamic medicines, generally recommended, are often ineffectual (*a*). In leprous cases also they have frequently had excellent effects, in virtue perhaps of their diuretic power; for so great is the consent, of the kidneys with the skin, that the humours accumulated in the cutaneous glands may be discharged by urine; as the urinary liquor, when the kidneys fail in their office, sometimes transpires through the skin (*b*).

Great caution is requisite in the use of this highly stimulating medicine; a small excess in the dose producing not only a strangury, but a discharge of blood, with intense pains about the neck of the bladder: a grain, and even a quarter of a grain (*c*), has in some cases had this effect. The remedy for these symptoms (in good habits, and where the cantharides has not been greatly overdosed) consists in plentiful dilution with emollient liquors in which some nitre has been dissolved, with the interposition of moderate doses of opium. It is commonly supposed that camphor, given along with the fly, corrects in some degree its irritating power.

Cantharides, digested in rectified spirit, impart to it a bright yellow tincture, and have their own colour improved: boiling water receives from them a muddy yellowish or brownish hue, and considerably impairs the colour of the fly. The active matter of the cantharides is completely taken up by both menstrua, and does not rise with either in distillation or evaporation: the substance of the fly, remaining after digestion either in water or in spirit, does not in the least blister or inflame the skin; whereas both the watery and spirituous extracts blister freely.

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(*a*) Mead, *Monita & præcepta*, p. 256.

(*b*) Idem, *Medica sacra*, p. 24.

(*c*) Hermann, *Cynosura*, m. m. pars ii. Edit. Boecker. p. 56.

Tinct. canth.

† Pb. Lorain.

‡ Pb. Edinb.

The safest and most commodious form for taking cantharides internally, is the spirituous tincture; which, dropt into watery or vinous liquors, mingles uniformly, without precipitation or turbidness. Two drams of the cantharides, bruised a little, are commonly digested about two days in a pint and a half of proof spirit, with the addition of half a dram or more of cochineal as a colouring ingredient†: some employ rectified spirit, that after it has extracted the virtue of the cantharides, it may be able to dissolve a further addition of an ounce and a half of balsam of copaiba‡; to which other ingredients also have been joined, that seem to be of no great consequence in the small dose to which the medicine is necessarily limited by the cantharides. These tinctures are usually given from fifteen to thirty or more drops twice a day: the most certain method of obtaining, without danger, the full effect of the cantharides, is, to begin with the smaller dose, and increase it by two or three drops at a time, till a little uneasiness is perceived in making water; after which, (the medicine being intermitted for a day or two) the dose is to be diminished a little, and continued just below the quantity which produced that effect.

§ Unguentum
epispasticum
mitius Pb. E.

A soft extract of cantharides is in many cases preferable, for external purposes, to the ointments and plasters made with the powdered fly, particularly for the dressing of perpetual blisters; as it acts more uniformly than the compositions containing the fly in substance, and occasions less pain in the dressing. Hoffmann's *mild blister which gives little pain*, mentioned now and then in his works, seems to have been, or to have had for its basis, a preparation of this kind; and probably the empirical *perpetual blister* is no other. The college of Edinburgh have now received a composition on the same principle: they direct an ounce of cantharides to be infused for a night in a proper quantity of boiling water, the liquor to be strongly pressed and strained out, and boiled with two ounces of hogs lard till the humidity is wasted; after which, an ounce of white resin, an ounce of yellow wax, and two ounces of Venice turpentine, are to be added, and the whole well mixed so as to form a smooth ointment §.

C A R A N N A.

C A R A N N A.

CARANNA Pharm. Edinb. **CARANNA:** a concrete resinous juice; exuding from a large tree, of which we have no particular account; brought from New Spain and some other parts of America, in little masses, rolled up in leaves of flags; externally of a dark brownish colour, internally brown with a cast of red, variegated with irregular white streaks; somewhat soft and tenacious as it first comes over, but in keeping growing dry and friable.

THIS juice has an agreeable smell, especially when heated, and a bitterish and slightly pungent taste. Water dissolves above one fourth of it, and rectified spirit above three fourths: what is left by the one menstruum dissolves in the other, a small quantity of impurities excepted: both solutions are of a bright yellow colour, the spirituous deepest.

The watery tincture smells agreeably of the caranna, and is in taste bitterish and somewhat warm. In distillation with water, there separates from the aqueous fluid a considerable quantity of an orange-coloured essential oil, of a very fragrant smell, and a moderately pungent taste: the remaining decoction, inspissated, leaves an extract of an ungrateful, though weak, bitterishness.

The spirituous tincture is both in smell and taste stronger and more agreeable than the watery. Inspissated, it yields a very tenacious adhesive resin, with an oily matter which separates and floats on the surface: the resin has very little smell, and scarcely makes any impression on the organs of taste: the oil is considerably aromatic, and moderately bitter, in which last respect it differs from the purer oil obtained by distillation with water.

Caranna has been chiefly employed as an ingredient in vulnerary balsams, corroborant and discutient plasters, and other external applications. It has very seldom been given internally, and is now, in this country, almost wholly in disuse.

C A R D A M O M U M.

CARDAMOM: a dried fruit or pod, brought from the East Indies; divided internally into three cells, in each of which are contained

contained two rows of triangular seeds, of a brownish colour on the outside and white within.

1. CARDAMOMUM MINUS *Pharm. Lond. & Edinb.* *Cardamomum simpliciter in officinis dictum C. B.* Cardamom, lesser cardamom: with short triangular husks, scarce half an inch in length; the produce of a plant with reed-like stalks, described in the *Hortus malabaricus* under the name of *Elettari*.

These seeds, freed from the husks, are an elegant and useful aromatic, of a grateful smell and flavour, very warm, yet not fiery, or subject, like the spices of the pepper kind, to produce immoderate heat. The husks should be separated only at the time of use; for the seeds soon lose a part of their flavour in being kept without this defence.

Their virtue is extracted, not only by rectified spirit, but almost completely by water also; with this difference, that the watery infusion is cloudy or turbid, the spirituous clear and transparent: the colour of both is a pale yellow. Scarcely any of the aromatic seeds give out so much of their warmth to watery menstrua, or abound so much with gummy matter, which appears to be the principle by which the aromatic part is made dissoluble in water: the infusion is so mucilaginous, even in a dilute state, as hardly to pass through a filter.

In distillation with water, a considerable quantity of essential oil separates from the watery fluid, of a pale yellowish colour, in smell exactly resembling the cardamoms, and of a very pungent taste: the remaining decoction is disagreeably bitterish and mucilaginous, retaining nothing of the pungency or warmth, any more than of the peculiar flavour of the spice. On inspissating the tincture made in rectified spirit, a part of the flavour of the cardamoms arises with the spirit, but greatest part remains behind concentrated in the extract; which smells moderately of the seeds, and has a pungent aromatic taste, very durable in the mouth, and rather more grateful than that of the seeds in substance.

Tinctures of this spice both in rectified and proof spirit are more agreeable than the watery infusions; and proof spirit impregnated with its flavour by distillation, more agreeable than the simple distilled water. A tincture of six ounces of the seeds in a quart of proof spirit*; and a spirituous water more lightly flavoured with them, by drawing off a gallon of proof spirit from four ounces†; are kept in

* Tinct. cardamomi *Ph. Lon.*

† Aq. sem. cardam. *P. L.*

in the shops, and occasionally made use of as pleasant warm cordials and for flavouring other medicines. I have not observed any of the aromatics to answer, in general, so well as the tincture of this spice, for rendering mineral waters and other saline liquors acceptable to the stomach.

2. *CARDAMOMUM MEDIUM Pharm. Paris. Cardamomum majus officinarum C. B.* Greater cardamom: with thicker and tougher husks, an inch or more in length; the produce of a plant of the same kind with the preceding, but larger. There is some confusion in regard to the name; that of *cardamomum majus* being applied among us to this species, and in France to the *grana paradisi*, of which hereafter.

The seeds of the greater cardamom are allowed by the faculty of Paris to be used indifferently with those of the lesser: the large kind, however, is much weaker than the other, both in smell and taste, and hence has in this country been long disregarded, and is now become a stranger to the shops. Both sorts are nearly of the same nature, the difference being chiefly in degree.

C A R D I A C A.

CARDIACA seu agripalma Pharm. Paris. Marrubium cardiaca dictum C. B. MOTHERWORT: a large plant, with square branched stalks, the leaves set in pairs on long pedicles at the joints, and the flowers in clusters round the upper joints: the leaf is dark coloured, cut deeply into three sharp-pointed indented segments, of which the middle one is longest, and the two lateral ones commonly again deeply cut: the flower is purplish, labiated, with the upper lip long and arched, the lower short and cut into three sections. It is perennial, grows wild in waste grounds, and flowers from the middle to the end of summer.

THIS plant is said to be useful in disorders of the stomach proceeding from thick phlegm; to loosen the belly; to promote perspiration, urine, and the uterine purgations. Such, in effect, are the virtues, which may be expected from its sensible qualities. The leaves and the tops have a moderately strong smell, not very agreeable; and a very bitter taste. In keeping for some time, or on boiling them in water, their smell is dissipated: the decoction, inspissated

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to the consistence of an extract, discovers to the taste a strong penetrating subsaline bitterness.

C A R D U U S.

CARDUUS BENEDICTUS Pb. Lond. & Edinb. *Cnicus silvestris hirsutior sive carduus benedictus* C. B. HOLY THISTLE: a plant with rough, narrow, jagged leaves, terminating in soft prickles; and large, hairy, branched stalks, leaning to the ground; on the tops of which grow large, scaly, prickly heads, including a number of yellow flosculi, which are followed by oblong striated seeds inclosed in down. It is a native of Spain and some of the islands of the Archipelago, and sown annually with us in gardens.

THE leaves of carduus have a penetrating bitter taste, not very strong, or very durable in the mouth; accompanied, in their recent state, with somewhat of an ungrateful flavour, which they soon lose in keeping. The herb, when thoroughly dried, should be hung up loosely in an airy place; being very subject, if pressed close, to rot or grow mouldy.

Cold water, poured on the dry leaves, extracts, in an hour or two, a light grateful bitterness: by standing long upon the plant, the liquor becomes disagreeable: a strong decoction is very nauseous and offensive to the stomach. A cold infusion and a decoction being separately inspissated, the same differences were observed between the extracts, as between the liquors in their dilute state; that left by the infusion being a sufficiently agreeable bitter, and that by the decoction disgustful; a proof, that the differences of the liquors do not depend, as might be supposed, on their degree of saturation, but on their being impregnated with matters of a different kind.

Rectified spirit also extracts, in a short time, the lighter bitter parts of the carduus, but does not take up the nauseous near so easily as water: a spirituous tincture prepared by warm digestion for several hours, and the extract obtained by inspissating it, were more strongly but not unpleasantly bitter. The colour of the watery tinctures is a yellowish or greenish, inclining more or less to brown, according as they are more or less saturated; that of the spirituous, a deep green.

On keeping the soft watery extracts for some months, a considerable quantity of saline matter was found to have shot upon the surface,
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into small crystals, in shape approaching to those of nitre, in taste bitterish with an impression of coolness.

The virtues of this plant seem to be little attended to in the present practice. The nauseous decoction is sometimes used to excite vomiting, and a strong infusion to promote the operation of other emetics: but this elegant bitter, when extracted from the offensive parts of the herb, may be advantageously applied to other purposes. I have frequently observed excellent effects from a light infusion of *carduus*, in weakness of appetite and indigestion, where the stomach was injured by irregularities and oppressed by viscid phlegm: nor have I found any one medicine of the bitter kind to sit so easily on weak stomachs, or to heat so little. These infusions, taken freely, promote the natural secretions. Drank warm in bed, they commonly increase perspiration or excite sweat; and as they act with great mildness, not heating or irritating considerably, they have been used, in this intention, in acute as well as chronical diseases.

The seeds of *carduus* are likewise considerably bitter, and have sometimes been used as sudorifics or diaphoretics, in the form of emulsion. Cartheuser observes, that they give the proper consistence of an emulsion to ten times their weight or more of water; and that they do not impart a perfect whiteness but a greyish colour to the liquor.

C A R I C Æ.

CARICÆ Pharm. Lond. & Edinb. FIGS: the dried fruit of the *ficus communis* C. B. a tree of a middling size, with large leaves cut into five segments, remarkable for producing no flowers previous to the fruit, growing spontaneously in the warmer climates, and cultivated in our gardens.

FIGS are accounted moderately nutritive, grateful to the stomach, and easier of digestion than any of the other sweet fruits. Their principal medicinal use is as a lubricating emollient sweet; in which intention, they are commonly made an ingredient in pectoral decoctions, and in lenitive electaries. They are employed externally, in cataplasms, for promoting the suppuration of inflammatory tumours; for which purpose they appear to be equally adapted with other soft substances void of acrimony or irritation.

C A R L I N A.

CARLINA: a perennial plant, with long, narrow, deeply jagged, and very prickly leaves, lying on the ground; in the middle of which grows a large roundish head, without any stalk, encompassed with smaller leaves, full of sharp prickles: the flower issues from the middle of the head.

1. *CARLINA* *sive* *chamæleon albus* Pharm. Edinb. *Carlina acaulis* *magno flore* C. B. *Cardopatium*. CARLINE THISTLE: with the flower composed of a number of white petals set round a middle disk. It is a native of the mountainous parts of Italy and Germany, from whence the dried roots are sometimes brought to us. These are about an inch thick, externally of a rusty or reddish brown colour, internally of a pale yellowish or brownish, corroded as it were upon the surface, and perforated with small holes, so as to appear, when cut, as if worm-eaten.

THE roots of carline thistle have a moderately strong, not agreeable smell; and a weak, bitterish, subacid, somewhat aromatic taste. Infusions of them in water have very little taste, and not much smell: distilled with water, they yield one two-hundredth part of their weight, or a little more, of a thick ponderous essential oil, which, on being rectified or redistilled, leaves a considerable proportion of resinous matter and becomes thin (*a*): the decoction, remaining after the separation of this most active principle of the root, is unpleasantly bitterish and subsaline, though only weakly so even when inspissated. A tincture and extract prepared with rectified spirit are stronger in taste than those made with water, but have little smell. Both the watery infusion and extract are of a brownish yellow colour, the spirituous of a deep gold yellow.

This root is supposed to be diaphoretic, antihysterical, and anthelmintic. It has been greatly esteemed by foreign physicians, in acute malignant as well as in chronic diseases; and given in substance from a scruple to a dram, and in infusion from one to two drams and more. It never came much into use among us, and is now rarely to be met with in the shops. Frederic Hoffmann the elder relates, that he has known a decoction of it in broth excite vomiting (*b*), but does not mention the quantity which produced this effect.

2. *CARLINA*

(*a*) Neumann, *Chem. works*, p. 406.

(*b*) *Clavis Schræder*. p. 431.

2. CARLINA GUMMIFERA; *Carduus pinea*; *Ixine*. *Carlina acaulos gummifera* C. B. *Chamaeleo albus dioscoridis* Columnæ. PINE THISTLE: with the flowers composed of purplish flosculi, like those of the common thistle. It is a native of Italy and the island of Candy.

THE roots of the pine thistle are larger than those of the carline, and of a stronger smell. Wounded when fresh, they yield a viscous milky juice, which concretes into tenacious masses, at first whitish and resembling wax*, when much handled growing black, supposed to be the *ixion*, *ixia*, and *acanthina mastiche* of the ancients. The juice, in taste and smell not ungrateful, is said to have been formerly chewed for the same purposes as mastich; and the root itself to be of the same virtue with that of the preceding species. *Cera di cardo
Italarum.

C A R P O B A L S A M U M.

CARPOBALSAMUM Pharm. Lond. The fruit of the tree that yields the balsam of Gilead. It is about the size of a small pea, with a short pedicle; of a roundish or oval figure, pointed at the top; composed of a dark brown, or reddish black, wrinkled bark, marked with four ribs from top to bottom, and a whitish or yellowish medullary substance (a).

THIS fruit, when in perfection, is said to have a pleasant warm bitterish taste, and a fragrant smell resembling that of the balsam itself. But such as is now and then met with in the shops, (for it is but rarely to be met with there) has almost wholly lost both its smell and taste. It is no otherwise made use of in this country than as an ingredient in mithridate and theriaca; in both which, its place is commonly supplied by materials of more efficacy than itself: some direct juniper berries, the London college cubebs, for its substitute.

(a) V. Prosp. Alpin. *Dialog. de balsamo.*

C A R T H A M U S.

MATERIA MEDICA.

CARTHAMUS.

CARTHAMUS Pharm. Paris. Cnicus sativus sive carthamus officinarum C. B. BASTARD SAFFRON, or SAFFLOWER: a plant with oval pointed leaves, somewhat prickly about the edges, joined close to the stalk, which is round, firm and branched: on the tops grow large scaly heads, with saffron-coloured fistular flowers standing out from them: these are followed by smooth white seeds, of an oblong roundish shape, yet with four sensible corners, remarkably heavy so as to sink in water. It is an annual plant, a native of Egypt, and cultivated in large quantity in some parts of Germany on account of the uses of its flowers in dying. It is sometimes raised among ourselves; but the seeds, which are the part that has been chiefly made use of in medicine, seldom come to perfection in this climate.

THE seeds of carthamus, freed from the shells, have an unctuous sweetish taste, which on chewing them for a little time becomes acrid and disagreeable: they form an emulsion on trituration with water, and give out to spirit a little nauseous acrid matter. They have been celebrated as a gentle cathartic, in doses of a dram or two in substance and six or eight drams in emulsion: but as they operate very slowly, and are apt, especially when given in substance, to occasion nausea, flatulencies, and distensions of the stomach; their use has long been laid aside, and the colleges both of London and Edinburgh have now discarded them from their catalogues of officinals.

The flowers have been sometimes employed as a colouring drug for alimentary and medicinal substances; and when well cured, are not easily distinguishable by the eye from saffron, though they have nothing of its smell or taste. They give a deep saffron tincture to rectified spirit, and a paler to water.

CARUI.

CARUI Pharm. Lond. Carvi sive carum Pharm. Edinb. Cuminum pratense carui officinarum C. B. CARAWAY: an umbelliferous plant, with striated branched stalks, two or three feet high; and finely divided leaves set in pairs along a channelled rib; every two of which ribs or pedicles cross one another at their origin on the

the stalk: the seeds are small, of a brownish or blackish colour, flat on one side, convex and striated on the other. It is a native of the northern climates: in this kingdom it is rarely found wild, but commonly cultivated in gardens for culinary and confectionary as well as medicinal purposes. It is biennial.

CARAWAY seeds are an useful stomachic and carminative; of a sufficiently agreeable aromatic smell, and a moderately warm taste: they are given, in substance, from a scruple to a dram. The leaves have the same kind of flavour with the seeds, but are considerably weaker and less grateful. The roots have a sweetish taste, accompanied with a slight warmth, and very little smell.

The seeds give out the whole of their virtue, by moderate digestion, to rectified spirit; for after the action of this menstruum they prove insipid and inodorous: the tincture tastes strongly of the caraways, but their smell is in great measure covered by the menstruum. The spirit, gently distilled off from the filtered liquor, brings over very little of the flavour of the caraways, leaving nearly all their active matter concentrated in the extract, which proves a very warm pungent aromatic. The colour, both of the tincture and extract, is a yellowish verging to green.

Infusions of the seeds in water are stronger in smell than the spirituous tincture, but much weaker in taste: after repeated infusion in fresh portions of water, they still give a considerable taste to spirit. The colour of the watery infusions is a pale reddish brown. In distillation or evaporation, water elevates all the aromatic part of the caraways: the remaining extract is almost insipid, and thus discovers, that in caraways there is less, than in most of the other warm seeds of European growth, of a bitterish or ungrateful matter joined to the aromatic. Along with the aqueous fluid there arises in distillation a very considerable quantity (about one ounce from thirty), of essential oil, of a bright yellow colour, smelling strongly of the caraways, in taste hotter and more pungent than those obtained from most of our other warm seeds: this oil is given from one to five or six drops, as a carminative; and is supposed also to be of peculiar efficacy for promoting urine, to which it communicates some degree of its smell. The leaves of the plant afford likewise an oil, nearly similar, both in colour and quality, to that of the seeds, but in far less quantity: sixteen pounds of the herb in flower, stripped from the stalks, yielded scarcely an ounce. The essential oil of the seeds

is

* Ol. essent. is directed as an officinal*; as also a cordial water, pretty strongly flavoured with them by drawing off a gallon of proof spirit from half a pound of the caraways†.

† Aqua sem.
carui P. Lond.

C A R Y O P H Y L L A.

CARYOPHYLLA AROMATICA Pharm. Lond. *Caryophyllus aromaticus* Pharm. Edinb. *Caryophyllus aromaticus seu potius garyophyllus* Pharm. Paris. CLOVES: the unripe fruit, or perhaps more properly the cups of the unopened flowers, of a bay-like tree (a) growing in the East Indies. In shape they somewhat resemble a short thick square nail, of a rusty colour inclining to black: in the inside of each clove are found a stylus, and stamina, with their apices: at the larger end shoot out, from the four angles, four little points like a star; in the middle of which is a round ball, of a lighter colour than the rest, composed of four small scales or leaves, which seem to be the unexpanded petala of the flower. The tree is one of those, whose flower is produced above the rudiments of the fruit: the ripe fruit, sometimes brought into Europe under the name of *antophyllus*, is marked on the top with the remains of the flower; it is about the size and shape of an olive, and contains, under a thin blackish shell, a hard kernel of the same colour, which has a deep longitudinal seam on one side. The cloves are said to be cured by exposing them to smoke, and afterwards drying them in the sun.

THE clove has a strong agreeable smell, and a bitterish, hot, very pungent taste: it is one of the hottest and most acrid of the substances of the aromatic class, and as such is often used, not only internally, but as an external stimulant. The *antophyllus* has the same kind of flavour with the clove itself; but being far weaker, in smell as well as in taste, it is very rarely applied to any medicinal purposes, and is now scarcely ever to be met with in the shops.

The clove is remarkably disposed to imbibe humidity; and when robbed of its active parts by infusion in menstrua or distillation, and afterwards mixed with fresh cloves, it regains from them a considerable share both of taste and smell. The Dutch, through whose hands this spice is brought to us, have often practised this abuse; which, however, may be easily discovered; for those cloves, which have

(a) V. Rumphius, *Herbarium Amboinense*.

have once lost their virtue, continue always not only weaker than the rest, but likewise of a much paler colour.

Tinctures of cloves in rectified spirit are of a dark reddish brown colour, of no great smell, but of a highly acrid taste: if the quantity of spirit be considerable, it leaves the clove deprived of all its virtue. On inspissating the filtered tincture, the spirit, which distils, is found to have very little impregnation from the spice: the remaining extract, nevertheless, does not discover so much smell as the clove in substance, but its taste is excessively pungent and fiery. The quantity of this burning extract amounts to about one third the weight of the clove.

Digested or infused in water, they impregnate the liquor more strongly with their smell than they do spirit, but not near so much with their taste: after repeated infusion in water, they impart still a considerable tincture to rectified spirit. In distillation with water, they give over, very slowly, near one sixth their weight (a) of essential oil*; when carefully distilled, colourless; by age, changing to a yellow, and at length to a reddish brown colour; when drawn with a strong fire, proving often of this colour at first; smelling strongly of the cloves; but in taste only moderately pungent, much less so than the spirituous extract. Neither the remaining clove nor decoction have any considerable taste; the pungency of this spice seeming to depend, not on the volatile or fixt parts separately, but on the combination of the two (b).

* Ol. essent.
caryoph. aro-
mat. P. L. & E.

The oil of cloves commonly met with in the shops, and received from the Dutch, is indeed highly acrimonious: but this oil is plainly not the genuine distilled oil of the clove; for notwithstanding its being more pungent than that which cloves afford by the common process of distillation, it contains a large admixture, oftentimes half its weight or more, of an insipid expressed oil; as appears upon treating it with rectified spirit, which dissolves the pungent aromatic matter, and leaves the gross insipid oil. It is probably from an admixture of the resinous part of the clove, that this sophisticated oil receives both its acrimony and high colour. Fresh cloves are said to yield a high coloured, thick, fragrant oil upon expression: possibly the common oil of cloves, brought from the spice islands, is no other than this oil, diluted with insipid ones. The college of London seems to require both the common and the genuine oil to be

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kept

(a) Hoffmann, *Observationes physico-chymicæ*, lib. i. obs. 3.

(b) Neumann, *De caryoph. aromat.* Chem. works, p. 413. Cartheuser, *m. m.* ii. 383.

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kept in the shops, making *essential oil of cloves* both an article of the materia medica and an officinal preparation: perhaps the common oil, as being most pungent, is best adapted for some external purposes, as the genuine doubtless is for those of an internal aromatic.

C A R Y O P H Y L L A T A.

CARYOPHYLLATA Pharm. Edinb. *Caryophyllata vulgaris* C. B. AVENS, or HERB-BENIT: a roughish plant, with dark-coloured winged leaves, resembling those of agrimony; and pentapetalous yellow flowers, standing in ten-leaved cups on the tops of the branches, followed, each, by a round cluster of hairy seeds with hooked tails: the roots are slender, full of fibres, of a dark brownish colour on the outside, and reddish within. It is perennial, grows wild in woods and hedges, and is found in flower greatest part of the summer.

THE root of avens has been employed as a gentle styptic, corroborant, and stomachic; and for these intentions continues, not undeservedly, of some esteem in foreign countries, though very little regarded among us. It has a mildly austere somewhat aromatic taste; and a very pleasant smell, somewhat of the clove kind, especially in the spring, and when produced in dry warm soils: such as is the growth of close, shady, moist places, has little and often nothing of this flavour.

This root gives out its astringent matter equally to watery and spirituous menstrea, its aromatic part most perfectly to the latter: the aqueous infusion is of a reddish brown colour, the spirituous of a deep yellow. In distillation with water, it yields a small quantity of a whitish concrete oily matter, of a very grateful fragrance: the remaining decoction, inspissated to the consistence of an extract, is moderately astringent. On committing to distillation the spirituous tincture, little or nothing comes over with the spirit; the aromatic part of the root, as well as the austere, remaining concentrated in the extract. The smell, which in the tincture is concealed or suppressed by the menstruum, discovers itself again when the spirit is drawn off.

C A R Y-

CARYOPHYLLUS RUBER.

CARYOPHYLLA RUBRA Pharm. Lond.. *Caryophyllus hortensis* five *tunica* Pharm. Edinb. *Caryophyllus altilis major* C. B.

CLOVE-JULY-FLOWER, or GILLIFLOWER: a plant with many smooth round jointed stalks, and grass-like bluish-green leaves standing in pairs at the joints: the flower is composed of five petals, narrow at the bases, broad and jagged at top, set in an oblong cylindrical cup, which is covered at bottom with four short scales forming as it were a secondary cup: after the flower has fallen, the calyx becomes a covering to a number of small, flat, wrinkled, black seeds. It is perennial, and said to be a native of Italy.

MANY species or varieties of these flowers are common in our gardens. Those employed for medicinal uses (to which the name of clove-july-flower is more particularly appropriated) are of a deep crimson colour, and a pleasant aromatic smell somewhat akin to that of the clove spice: their taste is bitterish and subastringent. In drying, their taste becomes stronger, and their smell is not so soon dissipated as that of many other fragrant flowers.

Clove-july-flowers have been recommended as cardiacs and alexipharmacs. Simon Pauli relates, that he has often cured malignant fevers by the use of a decoction of them; which, he says, powerfully promotes sweat and urine without greatly irritating nature, and at the same time raises the spirits, and abates thirst.

At present, these flowers are valued chiefly for their fine flavour; which is readily extracted by infusion in water, and dissipated even by light coction. Three pounds of the fresh flowers, clipt from the heels, communicate, by infusion in a close vessel for a night, a grateful and moderately strong smell, and a deep red colour, to five* and even to nine† pints of water: these liquors, with a proper quantity of fine sugar, form very agreeable syrups. On distilling the fresh flowers with water, the distilled liquor proves considerably impregnated with their fragrance, but no essential oil separates, though several pounds be submitted to the operation. The remaining decoction is of a deep red colour, and yields, on being inspissated, a dark purplish red extract, of little or no smell, and of a bitterish, austere, subsaline taste.

Rectified spirit, digested on the flowers, receives a much paler tincture than watery liquors, but extracts the whole of their active matter.

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matter. In distillation or evaporation, spirit elevates much less than water; the spirituous extract retaining a considerable share of the fine smell of the flowers, as well as their taste: its colour is purplish, like that of the watery extract.

C A S I A C A R Y O P H Y L L A T A.

CASIA CARYOPHYLLATA Pharm. Paris. *Cortex caryophylloides.* CLOVE BARK: the bark of a tree of the clove kind, (*caryophyllus aromaticus fructu rotundo, caryophyllum plinii C. B.*) brought from the island Cuba, Jamaica, and other parts of the West Indies; rolled up in quills; like cinnamon, but somewhat thinner, rougher on the outside, and of a darker rusty brown colour.

THIS bark is a warm aromatic, nearly of the same kind of smell and taste with the clove spice, but weaker, and with a little admixture as it were of the cinnamon flavour. It agrees nearly with cloves also in regard to the solubility and volatility of its active principles. Tinctures of it in rectified spirit smell and taste strongly of the bark: the watery infusions are considerably impregnated with its smell, but have very little of its taste. On inspissating the spirituous tincture, the spirit, which distils, has little or nothing of its flavour: the remaining extract smells lightly of the bark, and proves in taste very hot and pungent, though much less so than the spirituous extract of cloves. In distillation with water, it yields a very small portion of essential oil, nearly similar in flavour to oil of cloves, but more pungent than the genuine oil of that spice: the remaining decoction is ungratefully austere and bitterish.

A bark of the same kind is sometimes brought from the East Indies under the name of *culitlawan* or *culilawan*; a Malaccan compound word, of which the Latin *cortex caryophylloides* or clove bark is said to be a translation (a). That distinguished in Europe by the name of *culilawan* is thicker than the other, and in colour approaches somewhat more to cinnamon, but scarcely differs in smell or taste.

The same with this appears likewise to be the *carabaccium* of Baglivi; which he describes as being in taste like cloves, but very temperate and grateful, and in colour having a great resemblance to cinnamon; and which, he says, he made use of, with great benefit, in

(a) Rumphius, *Herbar. amboinense*.

in decoction, for correcting acrimony and scorbutic dissolution of the lymph, and for strengthening the stomach and promoting digestion (a).

Rumphius observes, that the outer and inner barks, and the barks of different parts of the tree, differ somewhat in colour and in taste from one another; (whence, probably, such differences as may have been observed in those brought under different names into Europe); and that the bark of the root approaches both in appearance and in flavour to saffrafras, to which it was, in Batavia, frequently substituted.

C A S I A F I S T U L A R I S.

CASIA FISTULARIS Pharm. Lond. *Cassia fistularis* Pb. Edinb. CASIA FISTULA: a hard woody cylindrical pod, of a tree resembling the walnut, (*cassia fistula alexandrina* C. B.) which grows spontaneously in Egypt and the warmer parts of the East Indies, and has been thence introduced into the West.

The pods or canes are about an inch in diameter, and a foot or more in length; externally, of a dark brown colour, somewhat wrinkled, with a large seam running the whole length upon one side, and another less visible on the opposite one; internally, of a pale yellowish colour, divided, by thin transverse woody plates, into a number of little cells, containing each a flattish oval seed with a soft black pulp.

THE pulp of casia has a sweetish taste, followed by more or less of an ungrateful kind of acrimony. The casia of the East Indies has a more agreeable sweetness, and less acrimony, than that of the West; and hence the former is universally preferred: they may be distinguished from one another by the eye; the oriental canes being smaller, smoother, and thinner-rinded, and their pulp of a deeper shining black colour, than the occidental. The lighter canes of either sort, and those in which the seeds rattle on being shaken, are generally rejected: in these, indeed, the pulp has become dry, but it does not necessarily follow that it is damaged: it loses nothing in drying but its aqueous humidity, and by this loss it should seem to be effectually secured from growing mouldy or sour, inconveniences to which in its moist state it is very subject.

The pulp of casia, whether moist or dry, dissolves both in water and in rectified spirit; readily in the former, slowly and difficultly in the

(a) Baglivi, *Experimenta circa salivam*, Opp. p. 426.

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the latter, and not totally in either: the part which remains undissolved appears to be of little or no activity. It is usually extracted by boiling the bruised pods in water, and evaporating the strained solution to a due consistence: the exhaling vapour carries off nothing considerable of the casia. As it is very apt to grow sour in keeping, only small quantities should be prepared at a time.

Casia, in doses of a few drams, is a gentle laxative; of good use in costive habits, in inflammatory cases where purgatives of the more acrid or irritating kind can have no place, and, as Geoffroy observes, in the painful tension of the belly which sometimes follows the imprudent use of antimonials. It is rarely given in such doses as to have the full effect of a cathartic; the quantity necessary for this purpose (an ounce and a half or two ounces) being apt to nauseate the stomach, and produce flatulencies and gripes, especially if the casia is not of a very good kind: mild aromatics, and dilution with warm liquors, are the best correctives.

It is sometimes acuated with the stronger purgatives, or with the antimonial emetics; of which last it is said by some to diminish the activity, so far, that four grains and a half of the tartarum emeticum may be taken, in a decoction of casia, by those who can bear but one grain and a half of the antimonial preparation by itself (*a*). It is often joined also as an auxiliary to the milder purgatives, as crystals of tartar, tamarinds, and manna; and of these, particularly of the latter, it is supposed to increase the cathartic virtue; a mixture of four drams of casia and one and a half or two of manna being said to purge as much as twelve drams of casia or thirty-two of manna by themselves (*b*).

It is observable, that during the use of casia, the urine appears frequently of a green colour, and sometimes, where the quantities taken are considerable, of a dark brown or blackish.

C A S I A L I G N E A.

CASIA LIGNEA Pharm. Paris. *CASIA LIGNEA*: the bark of a tree of the cinnamon kind, (*cinamomum seu canella malabarica* & *javenensis C. B.*): brought from the East Indies; exactly resembling cinnamon

(*a*) Malouin, *Chimie medicinale*, part. iii. chap. 38.

(*b*) Vallisneri, *Opere fisico-mediche*, tom. iii. p. 169.

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cinnamon in appearance, but distinguishable by its breaking short or smooth, while cinnamon breaks fibrous or shivery like wood.

THIS bark resembles cinnamon in aromatic flavour as well as in external appearance; but differs in being weaker, or containing less active matter, and in its abounding with a viscous mucilaginous substance. Chewed, it dissolves as it were in the mouth into a kind of slime: powdered and boiled in water, it renders a considerable quantity of the fluid thick and glutinous, so as to concrete on cooling into the consistence of a gelly.

Rectified spirit of wine, digested on the bark, dissolves and extracts its aromatic matter; the powder retaining its mucilage, so as to form a gelly with water as at first. The aromatic part may be separated also by distillation with water; in which process, if a large quantity of casia is used, a small portion of essential oil may be collected. The spicy principle of the casia, thus freed from the mucilage, in the form of spirituous tincture, or spirituous extract, or distilled water, or essential oil, appears the same with that of cinnamon; provided, in regard to the distilled fluids, that they have not received an empyreumatic taint in the operation, an inconvenience to which they are very subject on account of the mucilaginous matter swelling up and burning to the vessel.

Casia lignea was employed by the ancients as a succedaneum to cinnamon, of which it was reckoned equivalent to half its own quantity. At present, it is not unfrequently mixed with that spice in the shops, but is scarcely ever made use of under its own name.

C A S T O R E U M.

CASTOREUM Pb. Lond. & Edinb. CASTOR: the inguinal glands of the *castor* or beaver; a four-footed amphibious animal, frequent in several parts of Europe, and in North America. These glands are of different shapes and sizes, covered with a thick skin, including an unctuous liquid matter, which in keeping grows dry and hard: on cutting the dry cods, as they are called, they are found full of a brittle friable substance, of a brownish red colour, interspersed with fine membranes and fibres exquisitely interwoven. The best castor comes from Russia, in large, round, hard cods; an inferior sort, smaller and moister, from Dantzick; the worst of all from New England, in longish thin cods.

Russia castor has a strong not agreeable smell, and a biting bitterish nauseous taste: the other sorts are weaker than that of Russia, yet more ungrateful. It is generally looked upon as one of the capital nervine, antispasmodic and antihysterical medicines: its virtues have undoubtedly been much exaggerated; but though they are not near so great as they have by most writers been represented, they appear nevertheless to be considerable. The common dose is from two or three grains to a scruple; though it has been sometimes taken by drams, and these doses very often repeated (a).

Rectified spirit, proof spirit, and water, extract, by the assistance of heat, nearly all the active matter of castor: rectified spirit dissolves most readily the finer and less ungrateful, and water the more nauseous bitter parts: proof spirit acts equally, but difficultly, on both. Three ounces of powdered Russia castor, digested with a gentle heat, for three days, in a quart of rectified spirit*, communicated a deeper reddish tincture, and a stronger though rather less ungrateful taste, than four ounces did to the same quantity of proof spirit by maceration without heat for ten days†. On digesting in the two spirits equal quantities of the powder, with equal degrees of heat, for ten or twelve hours, the tincture in proof spirit proved sensibly most ungrateful, and that in rectified spirit possessed most perfectly the specific flavour of the castor: an infusion in boiling water was bitterer and more nauseous than either. The castor remaining after the action of water, retained a little of its flavour, but nothing of its nauseous bitterness: that left by rectified spirit retained a little of the latter, but nothing of the former; and the residuum of proof spirit a little of both.

In distillation, it gives over to water the whole of its smell and flavour: a quart of water, distilled from an ounce of Russia castor‡, receives a considerably strong impregnation, but gradually loses greatest part of it in being kept. It is said, that on submitting to this operation large quantities of the castor, a small portion of essential oil is obtained, which smells exceeding strongly, and diffuses its ungrateful scent to a great distance (b). This odorous and most active principle of the castor is carried off by water in a very gentle heat; infusions or light decoctions, which are very nauseous, yielding, however slowly inspissated, a brittle extract, which has nothing of

(a) J. Marius, *Castorologia aucta ab J. Franco*, p. 74.

(b) Cartheuser, *Fundamenta m. m. sect. xii. cap. 48.*

of the specific flavour of the drug, and proves in taste but weakly though ungratefully bitterish. Rectified spirit on the other hand, distilled from the tincture made in that menstruum, brings over scarcely any sensible impregnation; nearly all that it had extracted from the castor, remaining entire in the inspissated mass, which proves of an unctuous consistence; not easily reducible to dryness.

Castor is commonly joined in prescription with the deobstruent fetid gums, volatile alkaline salts, the volatile oily spirits, and other materials of similar intention. The volatile oily spirits are well adapted also as menstrua for dissolving the active matter of the castor; at the same time that they prove in many cases excellent additions to its virtue, as particularly in some hysteric disorders, and the several symptoms which accompany them: in this view, an ounce of Russia castor, and half as much asafetida, are digested about six days, in a close vessel, with a pint of the volatile spirit *.

* Tinct. cast.
comp. Ph. Ed.

C A S U M U N A R.

CASUMUNAR Pharm. Lond. Cassumuniar sive casmunar Pharm. Edinb. Bingalle. Rifagon. CASMUNAR: the root of an East India plant, of which we have no certain account: brought over in irregular slices of various forms, some cut transversely and others longitudinally: the cortical part is marked with circles, and of a dusky brownish colour: the internal part is paler, and unequally yellow.

THIS root was introduced some time ago by Marloe, as a medicine of uncommon efficacy in hysteric, epileptic, paralytic, and other nervous disorders. At present it is sometimes employed as a stomachic, but its use is not yet become so general as it seems to deserve. It is an elegant mild aromatic, moderately warm, lightly bitterish, in smell somewhat resembling ginger. Its virtues are extracted in perfection by rectified spirit, and, on drawing off the menstruum from the filtered tincture, remain concentrated in the inspissated mass; which smells very agreeably, and impresses on the organs of taste a grateful bitterishness, and a durable glowing warmth, not a fiery or pungent heat. Both the tincture and extract are of a deep saffron colour.

M A T E R I A M E D I C A.

C E D R U S.

CEDRINUM LIGNUM Pharm. Paris. *Cedrus conifera*
foliis laricis C. B. CEDAR OF LIBANUS: a large evergreen coniferous tree, with very narrow stiff sharp-pointed leaves standing several together in tufts. It is a native of the bleak snowy mountains of Syria, and is not as yet become common in this kingdom.

THE cedar is one of the odorous resiniferous trees; in its general medicinal qualities similar to the fir, but in some respects different. The resinous juice, extracted from incisions made in the trunk, has a stronger and more agreeable kind of smell, and is much more disposed to concrete into a solid brittle mass, without losing much of its valuable parts in the exsiccation. The wood (which is of a fine reddish colour and very light) is likewise more fragrant than the fir, and its odorous matter less volatile: a tincture of it in rectified spirit (which is reddish like the wood itself) being committed to distillation, the spirit brings over nothing of its virtue; all the active matter of the cedar remaining behind, concentrated into an elegant balsamic extract. Even boiling water does not easily carry off its flavour: the watery extract smells considerably of the wood, and is in taste bitterish and saline. Marggraf relates, that on keeping the extract for some time, small crystals shot upon the surface, which were found on trial to be common salt; and that on distilling the wood with water, it yielded about one sixty-fourth its own weight of a thick, yellowish, essential oil, which grew thicker in a moderate degree of cold, and quite consistent in a strong one (a). In the saline nature of the watery extract, this wood differs from all the resinous ones that have been examined; and in the thickness, and congelability of its essential oil, from all but the lignum aloes.

C E N T A U R I U M.

CENTAURIUM MINUS Pharm. Lond. & Edinb. & C. B.
 LESSER CENTAURY: a small plant, with three-ribbed, somewhat oval leaves, set in pairs on the stalks; which divide, towards the top, into several branches, bearing umbel-like clusters, of bright red, funnel-shaped flowers, cut into five acute segments, followed by
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(a) *Memoires de l'acad. des scienc. de Berlin, tom. ix.*

little oblong capsules full of very small seeds. It is annual, grows wild in dry pasture grounds, and flowers in July.

THE leaves and tops of centaury are strong bitters, of scarcely any smell or particular flavour. The seeds also are very bitter; the petals of the flowers, and the roots, almost insipid. The flowery tops are generally made choice of, and are of considerable estimation in the present practice as corroborant stomachic bitters.

The active parts of this plant are dissolved readily both by water and rectified spirit, the herb, after infusion in sufficient quantities of either menstruum, remaining insipid: infusions of the leaves in water are of a paler or deeper brownish colour, according as they are less or more saturated; to rectified spirit, the fresh leaves give a dark brownish red tincture. All these liquors are sufficiently elegant bitters.

Water takes up, along with the bitter, a large quantity of an insipid mucilaginous substance, whereas rectified spirit seems to dissolve little more than the pure bitter part. Hence, on inspissating the two solutions to the same consistences, the watery extract proves much less bitter than the spirituous, and its quantity above four times greater: according to Cartheuser's experiments, an ounce of the herb yields with water above half an ounce of extract, but with spirit scarcely half a dram or two scruples.

C E N T A U R I U M M A J U S.

CENTAURIUM MAJUS, *sive rhaponticum vulgare officinarum*, Pharm. Paris. *Centaurium majus folio in plures lacinias diviso* C. B.

GREAT CENTAURY: a large plant, with the leaves composed of oblong serrated segments set in pairs on a middle rib, which is edged, in the intermediate spaces, with a serrated margin: the stalk divides, towards the upper part, into several branches, bearing, on the tops, round soft scaly heads, from which come forth blueish flosculi, followed by down inclosing the seeds. It is perennial, a native of the southern parts of Europe, and raised with us in gardens.

THE root of this plant, of a dark blackish colour on the outside, is internally reddish, and yields, when fresh, a juice of a deep red. It has a slight smell, not disagreeable; and in chewing discovers a viscous sweetishness and roughness, with some degree of acrimony.

It is reckoned aperient and corroborant, and supposed to be particularly useful in alvine fluxes; in which intention it has by some been greatly recommended, though apparently much inferior to the root whose place it was employed to supply, to wit, the true rhabarbaric (see *rhabarbarum*). Among us it has long stood discarded from practice, and is now dropt by the colleges both of London and Edinburgh.

C E P A.

CEPA Ph. Lond. & Edinb. Cepa vulgaris C. B. ONION: a plant with a single bulbous root composed of a number of coats; producing long fistular leaves, and a tall naked bellied stalk, bearing a large cluster of hexapetalous white flowers, each of which is followed by a roundish capsule, containing a number of black angular seeds. It is cultivated in gardens for culinary uses.

ONIONS are very acrid, stimulating, and of little nourishment. Taken freely in hot bilious dispositions, they produce flatulencies, thirst, headaches, and febrile symptoms. In cold sluggish phlegmatic temperaments, they are of service; warming the habit, attenuating viscid humours, and promoting the natural excretions, particularly expectoration and urine. They are likewise powerfully antiseptic, and by virtue of this quality are recommended by some as a salubrious addition to the food in scorbutic cases. Externally, they are employed in cataplasms for suppurating hard tumours: some recommend them also to be rubbed on bald places for promoting the growth of hair. Frederic Hoffmann reports, that suppressions of urine, in children, are speedily relieved, by the application of roasted onions to the region of the pubes.

The root, which is the most acrid part of the plant, loses greatly in drying, both of its smell and taste, together with about seven eighths of its weight. It gives out its virtue, by infusion, both to water and to rectified spirit, but not readily, nor completely, to either. In distillation, the whole of its acrimony and peculiar flavour arise with water, and a very considerable part with spirit: the distilled water smells exceeding strongly and offensively of the onion, but no essential oil could be obtained on submitting to the operation several pounds of the root. The watery decoction, inspissated to the consistence of an extract, is very mucilaginous, but of scarcely any particular taste; and the taste of the spirituous extract is very weak.

The

The active matter of onions appears therefore to be of a much more volatile kind than that of garlic, with which, in other respects, it nearly agrees.

C E R A.

BEE'S WAX: a solid concrete, collected from vegetables by the bee; and extracted from the combs, after the honey is got out, by heating and pressing them: lighter than water, heavier than proof spirit; soluble in rectified spirit, very sparingly, and not without the assistance of heat, into a gelatinous liquid; not dissoluble at all in watery liquors; melting, by a heat a little greater than that which the hand can support, into the appearance of oil, and in this state easily miscible with oils and liquid fats; readily inflammable, and burning totally away; almost totally arising in distillation, partly in form of a thick empyreumatic oil, and partly in that of a consistent butyraceous matter, which by repeated distillation becomes fluid and thin.

1. *CERA FLAVA Pharm. Lond. & Edinb.* Yellow wax; in the state wherein it is obtained from the combs. When new, it is of a lively yellow, somewhat tough, yet easy to break: by age, it loses its fine colour, and becomes harder and more brittle.

2. *CERA ALBA Pharm. Lond. & Edinb.* White wax: the yellow wax artificially bleached, by reducing it into thin flakes, and exposing these for a length of time to the sun and open air: when sufficiently whitened, the wax is melted and cast into cakes.

YELLOW WAX, when in perfection, has an agreeable smell, somewhat resembling that of honey: by long keeping, and in the process by which it is whitened, its smell is in good measure dissipated. Distilled with water, by a boiling heat, it impregnates the liquor slightly with its scent, but gives no appearance of any essential oil; nor is the whole of its odorous matter to be easily separated by this process. Chewed, it proves tenacious, does not mingle with the saliva, or discover any particular taste. The gelatinous solution, obtained by boiling it in spirit of wine, by mixture with a thick mucilage of gum-arabic becomes soluble in water, so as to form therewith an emulsion or milky liquor: the wax itself is made in like manner soluble, without the intervention of spirit, by thoroughly mixing it

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It with the gum in fine powder: when thus dissolved, it proves still insipid, and perfectly void of acrimony.

The chief medicinal use of wax is in plasters, unguents, and other like external applications; partly for giving the requisite consistence to other ingredients; and partly on account of its own emollient quality. The yellow sort, dissolved into an emulsion, or mixed with sperma ceti, oil of almonds, conserve of roses, or other like substances, into the form of an electary; or divided, by stirring into it, when melted over a gentle fire, as much, as it will take up, of powdery matters, as the compound crabs-claw powder*; is given also internally, and often with great success, in diarrhœas and dysenteries, for obtunding the acrimony of the humours, supplying the natural mucus of the intestines, and healing their excoriations or erosions.

* Pulv. testaceus ceratus
Pharm. Edinb.

The empyreumatic oil, into which wax is resolved by distillation with a strong heat, is greatly recommended by Boerhaave and others, for healing chaps and roughness of the skin, for discussing chilblains, and, with the assistance of proper fomentations and exercise, against stiffness of the joints and contractions of the tendons. It is, doubtless, highly emollient, but does not appear to have any other quality by which it can act in external applications: it has nothing of the acrimony or pungency, which prevail in all the other known distilled vegetable oils; though in smell it is not a little disagreeable and empyreumatic, a circumstance which occasions it to be at present more rarely used than it has been heretofore. As the wax swells up greatly in the distillation, it is convenient to divide it, by melting it with twice its weight of sand, or putting the sand above it in the retort, that it may mingle with the wax when brought into fusion. The oil, which is preceded by a small quantity of acid-liquor, congeals in the neck of the retort, from whence it may be melted down by applying a live coal, and made fluid by redistilling it two or three times without addition*.

* Oleum cereæ
Pharm. Edinb.

C E T E R A C H.

ASPLENIUM sive ceterach Pb. Paris. Ceterach officinarum C. B. Scolopendria vera Tragi. SPLEENWORT or MILTWASTE: a small bushy plant, growing in fissures of rocks and old walls; consisting of capillary blackish roots, and long narrow leaves, cut down

down to the rib, on each side, alternately, into a number of oblong obtuse narrow sections with broad bases. It has no stalk or flower: the seeds are a yellow powder produced on the backs of the leaves.

THE leaves of ceterach have an herbaceous, mucilaginous, roughish taste, and no considerable smell: with solution of chalybeate vitriol, they strike a blackish colour. They stand recommended as a pectoral, similar to maidenhair, to which they have been frequently joined in infusions and apozems; and likewise as an aperient in obstructions of the viscera. Mr. Morand relates, that there has lately been discovered in them an excellent diuretic virtue; that they were used with great success by count D'Auteuil, a Spanish naval commander, against the gravel, with which he was violently tormented; that they have since come greatly into use at Paris, Verdun, and Grenoble; that from the observations made there, they appear to gently carry off sand, cleanse the kidneys, and allay pains in the urinary passages; and that the way of using them is, to drink infusions of them in the morning as tea, with the addition of such other medicines as particular cases may require.

C E V A D I L L A.

CEVADILLA hispanorum Ph. Paris. (i. e. bordeolum). Hordeum causticum C. B. INDIAN CAUSTIC BARLEY: the seed vessel of a Mexican plant, resembling in its form and structure a barley ear, but with smaller seeds, not above the size of linseed.

THESE seeds appear, from the accounts given of them by authors, to be the strongest of the vegetable caustics. Monardes reports, that in putrid verminous ulcers, and gangrenes, they have the same effects as corrosive sublimate, or the actual cautery; and that the way of using them is, to sprinkle a little of the powdered seed upon the part, or for the greater safety, to dilute it with watery liquors, and apply lint dipt in the mixture (a). In France, they are ranked among the officinals: in this country they are very rarely to be met with.

(a) Ray, *Historia plantarum*, tom. ii. p. 1246.

C H Æ R E F O L I U M.

M A T E R I A M E D I C A.

C H Æ R E F O L I U M.

CHÆREFOLIUM Pb. Edinb. *Chærophylum sativum* C. B. *Gingidium*. CHERVIL: an umbelliferous plant, with winged leaves somewhat like those of parsley, producing smooth longish seeds shaped like a bird's beak. It is a native of the southern parts of Europe, and sown annually with us in gardens.

CHERVIL is a salubrious culinary herb; sufficiently grateful both to the palate and stomach; slightly aromatic; gently aperient and diuretic. The expressed juice is recommended by Riverius and others in dropsies; and Geoffroy relates, that he has found it, from experience, of remarkable service in this disease, that it acts mildly and without irritation, and abates inflammatory symptoms. He directs three or four ounces of the depurated juice, with seven or eight grains of nitre, and half an ounce of a syrup of the five opening roots, to be taken daily every four hours; though he intimates also that the chervil juice has succeeded without any assistance. He observes that it is to be used with caution where the patient is troubled with a cough or a spitting of blood, as being liable to aggravate these complaints, in consequence of a nitrous salt by virtue of which he supposes this juice to act.

The depurated juice, inspissated to the consistence of an extract, is manifestly saline to the taste, but not entirely of the nitrous kind: it is more pungent than nitre, and did not visibly deflagrate in the fire. Of the aromatic flavour of chervil, little or nothing accompanies the juice; though water, as well as spirit, extracts greatest part of it by infusion. The aromatic matter of this herb is of a very volatile kind, being soon dissipated in drying or boiling: in distillation with water, there separates from the aqueous fluid a small portion of essential oil, resembling in taste, as Hoffmann observes, the essential oil of fennel-seeds.

C H A M Æ D R Y S.

CHAMÆDRYS Pb. Lond. *Chamædrys sive trissago* Pb. Edinb. *Chamædrys minor repens* C. B. *Chamædrys vulgo vera existimata* J. B. GERMANDER: a low creeping shrubby plant; with square stalks; small stiff oval leaves, notched from about the middle to the extremity, like

like those of the oak tree, set in pairs at the joints; and purplish labiated flowers, not thick together, wanting the upper lip. It grows wild in some of the woods of France, Germany, and Switzerland: with us it is raised in gardens, and flowers in June and July.

THE leaves and tops of germander have a moderately bitter taste, accompanied with a weak aromatic flavour, which is diminished a little in drying, but not totally dissipated in keeping for several months. They stand recommended as mild aperients and corroborants, in uterine and other obstructions, intermitting fevers, scrophulous disorders, and in the rheumatism and gout. They make a principal ingredient in the alterative antiarthritic compositions prescribed by the ancients; whose use has lately been revived, with little variation; and which are said, when long persisted in, by strengthening the habit, rendering the blood more fluid, and promoting perspiration, to prevent returns of the gouty paroxysms. In some arthritic cases, these and other warm bitter medicines have been of considerable service: in others, they have been continued for years without any apparent benefit: in others, particularly in hot dispositions, in persons of an advanced age, and who had long suffered the disease, the abatement they procured of the gouty paroxysms has been followed by symptoms more alarming.

The tops of the plant, gathered when the seeds are formed, are generally preferred to the leaves. Their dose, in substance, dried and powdered, is from half a dram to a dram or more. They give out their virtues both to watery and spirituous menstrua; and tinge the former of a yellowish colour inclining more or less to brown, according to the degree of saturation; the latter of a deep green. Water seems to dissolve the bitter matter more perfectly than pure spirit; the watery extract being stronger in taste than the spirituous, though the quantity of both extracts, according to Cartheuser's experiments, is very nearly alike.

C H A M Æ M E L U M.

CAMOMILE: a plant with finely divided leaves: and moderately large flowers, standing solitary on the tops of the stalks, upon long naked pedicles: the flower is composed of a number of white petala, set round a yellow convex disk.

D d

I. CHA-

I. CHAMÆMELUM *Pb. Lond.* *Chamæmelum nobile Pb. Edinb.*
Chamæmelum nobile seu leucanthemum odoratius C. B. *Chamomilla.*
 Trailing perennial camomile, called Roman. It is found wild in moist pasture grounds in several parts of England, but commonly cultivated in gardens, and flowers in June and July.

THE leaves and flowers of this plant have a strong, not ungrateful, smell; and a very bitter nauseous taste. The flowers are somewhat bitterer, and considerably more aromatic than the leaves; and the yellow disk of the flower is, in both respects, far stronger than the white petals. The smell, as well as the taste, is rather improved than weakened by drying, and does not soon suffer any considerable diminution in keeping.

This plant, besides its general virtues as a bitter, is supposed to have some degree of a carminative, anodyne, and antispasmodic power, depending on its odorous matter. It is recommended in colics of different kinds, particularly such as arise from flatulencies or cold; in hysterical and hypochondriacal disorders, and spasmodic and nephritic pains; in the pains of childbed women, and deficiencies of the uterine purgations; and intermitting fevers, where a viscidness of the humours, or obstructions of the viscera, render the Peruvian bark ineffectual or prejudicial. In this last intention, the camomile is generally assisted by fixt alkaline salts, sal ammoniac, or other aperients, and often also by corroborating materials: Baglivi's preparation of camomile, which he looks upon as the most certain specific in obstinate intermittents (a), was probably rather a composition of this kind, than any particular preparation of the camomile alone. The dose of the dry flowers, in substance, is from ten or twelve grains to half a dram or more; in decoction or infusion, two drams.

Camomile flowers give out their virtues both to water and rectified spirit: infusions made in the former are of a yellowish brown colour, in the latter of a bright gold yellow. Distilled with water, they impregnate the aqueous fluid pretty strongly with their flavour*: if the quantity of camomile, submitted to the operation, is large, a little essential oil † separates and rises to the surface of the water, in colour yellow with a cast of greenish or brown, of a pungent taste, and a strong smell exactly resembling that of the camomile. Decoctions of the flowers, inspissated, though with a very gentle heat, to the consistence

* Aq. chamæ-
meli *Pb. Ed.*

† Ol. essent.
flor. chamæm.
Pharm. Lond.

(a) *De fibra motrice & morbosa, cap. xiii. Oper. p. 389.*

consistence of honey†, lose almost all the peculiar flavour of the plant, retaining its bitterness entire: the extract discovered to the taste a slight saline kind of austerity joined to the bitter; and on keeping for some months, threw off to the surface a number of minute saline crystals.

† Extractum
flor. chamæm.
Pharm. Edinb.

Rectified spirit, drawn off from the tincture made in that menstruum, brings over likewise a part of the flavour of the camomile, but leaves a considerable part behind in the extract. The smell is in great measure covered or suppressed by the spirit, in all the spirituous preparations; but the taste, both in the spirituous tincture and extract, is considerably stronger than in the watery.

The leaves and flowers are frequently employed externally, in discutient and antiseptic fomentations, and in emollient and carminative glysters. They appear, from Dr. Pringle's experiments, to stand very high in the scale of antiseptics; the soluble part of the flowers resisting the putrefaction of animal flesh, with a power at least one hundred and twenty times greater than sea salt. Some endeavour to impregnate oil olive with the active matter of the camomile, for external uses, by gently boiling the fresh herb and flowers bruised, in thrice their quantity of the oil, till they become crisp; and then straining and pressing out the fluid*. A preparation of this kind might be obtained, perhaps, to better purpose, by a process similar to that, whereby expressed oils are perfumed with the fragrance of the more odoriferous flowers (see page 128); for the strong heat, necessary for making the fluid boil, impresses a disagreeable taint, and dissipates greatest part of the volatile matter of the camomile.

*Ol. chamæm.
Pharm. Edinb.

2. CHAMÆMELUM FLORE PLENO: *Chamæmelum nobile flore multiplici* C. B. Double camomile: a variety of the foregoing, produced by culture; differing in the flowers being double, or having several rows of the white petals, and the disk proportionably smaller.

The single and double flowered camomiles have been often used indiscriminately, and are allowed to be so used by the faculty of Paris. The leaves of the two plants are indeed alike, in quality as well as in their external form: but with regard to the flowers, as their active matter is almost wholly confined to the yellow disk, and as the single have large disks, but the double very small ones, and when very double scarcely any at all; it is plain that the latter cannot be equivalent to the former unless taken in much greater quantity; and that therefore the single or large-disked flowers alone ought to be employed for medicinal uses.

3. CHAMÆMELUM VULGARE, *Anthemis*: *Chamæmelum vulgare leucanthemum dioscoridis* C. B. Common camomile; upright, annual, growing wild in corn fields.

This species also is allowed by the faculty of Paris to be used indifferently with the Roman camomile. Both its leaves and flowers are much weaker than those of the Roman, and their smell of a less agreeable kind: sometimes they have scarce any smell at all. They yield in distillation considerably less oil: from eight pounds of the flowers of the Roman were obtained about five drams, or a very little more; from the same quantity of those of the common, scarcely three drams. The oils of the two plants are in smell and taste nearly alike, but in colour remarkably different, that of the common being of a beautiful deep blue: if the oil is carefully kept, it retains its fine colour for many years; but if the air is admitted to it, the blue degenerates in a short time to a yellow, like that which the oil of the other sort has on its first distillation.

4. COTULA FOETIDA *Pharm. Edinb.* *Chamæmelum fœtidum* C. B. Mayweed or stinking camomile: annual, more upright, with finer leaves, the flowers thicker together and their disks more convex and protuberant, than the other camomiles. It grows in waste grounds, and among corn.

This species differs greatly in quality from the three preceding. Its smell is very disagreeable; the taste acrid and nauseous, but of little bitterness. It has never been much in use, nor are its medicinal effects well known. Decoctions of it are said to have been sometimes employed as a bath or fomentation, against hysteric suffocations, and hæmorrhoidal pains and swellings. Mr. Ray says, that a decoction of the herb has by some been given internally, with success, in scrophulous cases.

C H A M Æ P I T Y S.

CHAMÆPITYS *Pharm. Lond.* *Chamæpitys sive iva arthritica* *Pharm. Edinb.* *Chamæpitys lutea vulgaris sive folio trifido* C. B. *Abiga & ajuga quibusdam.* GROUNDPIKE: a low, hairy, creeping plant, with square stalks; whitish clammy leaves, cut deeply into three long narrow segments like those of the pine tree, set in pairs at the joints; and yellow labiated flowers, without pedicles, and
wanting

wanting the upper lip. It is annual, grows wild in sandy and chalky grounds in some parts of England, and flowers in July.

THE leaves of groundpine are moderately bitter, and of a resinous, not disagreeable smell; approaching in this respect, as in their external form, to those of the pine tree. They are recommended as aperients, and corroborants of the nervous system; and said to be particularly serviceable in female obstructions, paralytic disorders, and when continued for a length of time, either by themselves or with the assistance of germander, in rheumatic, ischiadic, and gouty pains: see *chamædry*s and *aristolochia*.

The leaves in substance, dried and powdered, are directed to be given from half a dram to a dram. Their virtues are extracted both by water and spirit, most perfectly by the latter: the aqueous tinctures are yellowish, the spirituous green. In distillation, they weakly impregnate water with their resinous scent: on distilling large quantities of the herb, a little essential oil may be collected, in quality somewhat approaching to that of turpentine. The watery extract has, joined to its bitterness, a weak saline austerity; the spirituous, a slight sweetishness and warmth.

C H E I R I.

CHEIRI, five *leucium luteum* Pharm. Edinb. *Leucium luteum vulgare* C. B. *Viola lutea* Gerard. WALL FLOWER: a plant with woody brittle stalks and branches; smooth, dark green, oblong, narrow, sharp-pointed leaves; and numerous, tetrapetalous, yellow flowers, opening successively, on the tops, followed by long slender pods containing reddish flat seeds. It grows wild upon old walls and among rubbish in several parts of England, and flowers in April and May.

THE flowers of cheiri have a moderately strong pleasant smell, and a nauseous, bitterish, somewhat pungent taste; which seem to afford some foundation for the nervine and deobstruent virtues commonly ascribed to them. They give out their active matter, together with a deep yellow tincture, both to water and spirit; and impregnate water, in distillation, with their odoriferous principle separated from the other parts; but yield no actual oil, at least when only moderate quantities, as a pound or two of the flowers, are submitted to the operation

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operation at once. The decoction, after the dissipation of the aromatic matter, discovers, besides the strong taste manifest in the flowers themselves, a sensibly saline one.

C H E L I D O N I U M M A J U S.

CHELIDONIUM MAJUS Pharm. Edinb. *Chelidonium majus vulgare* C. B. CELANDINE: a plant with longish leaves,

divided to the rib into roundish indented portions, of which those at the extremities are much larger than the others, of a bright green colour on the upper side, blueish green underneath, full of a gold coloured juice, as are likewise the stalks: from the bosoms of the leaves issue long pedicles, bearing clusters of tetrapetalous yellow flowers, which are followed by brownish pods containing flattish shining black seeds: the root is pretty thick at top, with a number of fibres at bottom, externally brownish, internally of a deep yellowish red or saffron colour. It is perennial, grows wild in hedges and shady waste places, and flowers in May.

THE leaves and roots of celandine have a faint unpleasant smell, and a bitterish, very acrid, and very durable taste, which is considerably stronger in the roots than in the leaves. Both water and rectified spirit extract nearly the whole of their pungent matter: the leaves, notwithstanding the yellow juice which issues so plentifully from a slight wound, and in which their activity appears to reside, give to rectified spirit a green tincture: the roots, which yield a copious saffron red juice, tinge the same menstruum of a brownish yellow. The pungency of this plant is not of the volatile kind, little or nothing of it rising in distillation, with water, any more than with spirit: it is nevertheless greatly abated by drying the plant itself, or by inspissating, with a gentle heat, the spirituous or watery infusions. The smell of the herb is wholly dissipated in drying.

This acrid plant stands recommended as a powerful aperient and attenuant, in obstinate jaundices when not accompanied with inflammatory symptoms, in cachexies, chloroses, dropsies, and other diseases. Half a dram or a dram of the dry root in powder; or an infusion, in wine or water, of a dram or a dram and a half of the fresh root; or three or four drops of its saffron-coloured juice, in any convenient vehicle; are directed for a dose. Great caution is requisite in the internal use of a medicine so acrimonious and irritating;

more particularly in acute distempers, in which infusions of it, made in vinegar, have by some been recommended as a sudorific. Among us, it is employed chiefly by the common people for some external purposes; as the destroying of warts, cleansing foul sores, removing some cutaneous defecations, and clouds and beginning suffusions of the eyes: for this last intention, the juice is diluted largely with milk, being of itself much too sharp to be applied with safety to so tender an organ.

C H E L I D O N I U M M I N U S.

CHELIDONIUM MINUS Pharm. Edinb. *Chelidonia rotundifolia minor* C. B. *Scrophularia minor* & *ficaria quibusdam*.

PILEWORT: a small plant, with roundish, smooth, shining green leaves, set on long pedicles; and slender procumbent stalks; bearing bright gold-coloured solitary flowers, of eight or nine petals, which stand in three-leaved cups, and are followed by clusters of naked seeds: the root consists of slender fibres, with a number of tubercles or little knobs among them. It is perennial, grows wild in hedges and moist meadows, and flowers in April.

THE leaves of pilewort are ranked among the antiscorbutics, but do not promise to be of much virtue: they have no smell, and only an herbaceous taste, which, on chewing considerable quantities of them for some time, is followed by a very slight pungency. The roots are celebrated as a specific against the piles: they have been sometimes given inwardly, but chiefly applied externally, in the form of a cataplasm, lotion, or unguent. Boerhaave relates, that he cured an atrabiliary person who was troubled with the piles, by using daily a decoction of two ounces of this root, after sundry other medicines had been tried in vain. Perhaps the pilewort root acts, in these cases, little otherwise than as a simple emollient: it has a soft sweetish taste, and yields with water a large proportion of a mucilaginous extract.

C H I N A.

CHINA RADIX Pharm. Edinb. CHINA ROOT: an oblong thick jointed root, full of irregular knobs, of a reddish brown colour on the outside, and a pale reddish within. Two sorts are common in the shops, an oriental and occidental: the first, which is accounted the best, is considerably paler coloured and harder than the other. Of either kind, such should be chosen, as is fresh and heavy, and, when cut, exhibits a close, smooth, glossy surface.

The plant is a climber, with tendrils like those of the vine, producing clusters of small flowers, which are followed by pretty large berries. The oriental species (*a*) has roundish prickly stalks and red berries, and is a native of China and Japan: the occidental (*b*) has rounder smooth stalks and black berries, grows wild in Jamaica and Virginia, and bears the colds of our own climate.

THESE roots have scarce any smell or particular taste: when fresh, they are said to be somewhat acrid, but as brought to us they discover, even when long chewed, no other than a slight unctuousity in the mouth. Boiled in water, they impart a reddish colour, and a kind of vapid softness: the decoction, inspissated, yields an unctuous, farinaceous, insipid mass, amounting to upwards of half the weight of the root. They give a gold yellow tincture to rectified spirit, but make no sensible alteration in its taste: on drawing off the spirit from the filtered liquor, there remains an orange coloured extract, nearly as insipid as that obtained by water, but scarcely in half its quantity.

China root is generally supposed to promote perspiration and urine, and by its soft unctuous quality, to obtund acrimonious humours. It was first introduced into Europe about the year 1535, with the character of a specific against venereal disorders: the patient was kept warm, a weak decoction of china root used for common drink, and a stronger decoction taken twice a day in bed to promote a sweat. Such a regimen is doubtless a good auxiliary to mercurial alteratives: but whatever may be its effects in the warmer climates, it is found in this to be, of itself, greatly insufficient. At present, the china root is very rarely made use of, having for some time given place to
sarsaparilla,

(*a*) *Smilax caule aculeato teretiusculo, foliis inermibus ovato cordatis, Linn. spec. plant. 1029.*

(*b*) *Smilax caule inermi tereti, foliis inermibus: caulinis cordatis, racemis ovato-oblongis, Pjajdem 1031.*

sarsaparilla, which is supposed to be more effectual. Prosper Alpinus informs us, that this root is in great esteem among the Egyptian women for procuring fatness and plumpness (*a*).

C I C H O R E U M.

CICHOREUM Pharm. Edinb. Cichoreum silvestre sive officinarum C. B. Seris. WILD CICHORY or SUCCORY: a plant

with oblong, dark green, somewhat hairy leaves, deeply jagged about the edges, like those of dandelion, but larger; in the bosoms of which, towards the tops of the branches, the flowers come forth in spikes, consisting, each, of a number of blue flat flosculi, set in a scaly cup, which afterwards becomes a covering to several short angular seeds: the root is long and slender, of a brown colour on the outside and white within. It is perennial, grows in hedges and by road sides, and flowers in June and July.

WILD cichory abounds with a milky juice, of a penetrating bitterish taste, and of no remarkable smell or particular flavour: the roots are bitterer than the leaves or stalks, and these much more so than the flowers. By culture in gardens, it loses its green colour, and in great measure its bitterness, and in this state is a common salad herb. The darker coloured, and the more deeply jagged the leaves are, the bitterer is the taste of all the parts of the plant.

The roots and leaves of wild cichory are very useful aperients, acting mildly and without irritation, tending rather to abate than to increase heat, and which may therefore be given with safety in hectic and inflammatory cases. Taken freely, they keep the belly open, or procure a gentle diarrhœa; and when thus continued for some time, they have often proved salutary in beginning obstructions of the viscera, in jaundices, cachexies, hypochondriacal and other chronical disorders. Geoffroy relates, that he has known inveterate and stubborn intermittents cured by the daily use of wild cichory leaves after many febrifuges had been tried in vain.

The virtues of the cichory reside in the milky juice; and may be extracted by expression, or by infusing or boiling the herb or root in water or in spirit. The plant seems to lose nothing of its taste in drying; or the juice or infusions in being gently inspissated to the consistence of an extract; though the plant in its recent state, or the

E e

liquors

(a) *De medicina Ægyptiorum, lib. iv. cap. 1.*

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liquors un inspissated, are supposed to be of most efficacy. The watery extract is somewhat larger in quantity than the spirituous, and this last is proportionably strongest in taste.

C I C U T A.

CICUTA Pharm. Edinb, *Cicuta major* C. B. HEMLOCK: a tall umbelliferous plant, with large leaves, of a blackish green colour on the upper side, and a whitish green underneath, divided into a number of small oblong somewhat oval segments, which stand in pairs on middle ribs: these segments are again deeply cut, but not quite divided, on both sides; and many of these ultimate sections have one or two slighter indentations. The stalk is round, smooth, hollow, irregularly variegated with spots and streaks of a red or blackish purple colour. The flowers are white; the seeds greenish, flat on one side, very convex and marked with five furrows on the other. The root is oblong, about the size of a middling parsnep, yellowish without, white and fungous within. The plant is biennial; common about the sides of fields, under hedges, and in moist shady grounds; and flowers in June and July.

THE leaves of hemlock have a rank smell, of that kind which is called narcotic and virose: the organs of taste, they affect but little. On expression, they give out their smell to the juice; which, on being directly inspissated with a gentle heat, to the consistence of an extract, retains great part of the scent, and discovers an unpleasant sub-acrid taste seemingly of the subsaline kind. If the juice be suffered to settle till it becomes clear, it loses nearly all the specific flavour of the hemlock, the odorous principle seeming to separate and subside along with the herbaceous feculencies; the proper menstruum of this matter is rectified spirit of wine; which completely extracts the smell, both of the leaves in substance and of the inspissated juice, and receives, from both, a green tincture.

This herb is recommended externally, in cataplasms, fomentations, and plasters, as a powerful resolvent and discutient. Taken internally, in no great quantity, it has occasioned disorders of the senses, sleep, convulsions, and in some instances death; and hence it is ranked among the poisonous plants: Boerhaave tells us, that by the effluvia of the herb bruised and strongly smelt to, he became verti-

vertiginous (*a*). It is said, that to certain brute animals, it is innocent (*b*); and that its ill qualities are corrected by vinegar or other vegetable acids (*c*). Of its effects in small doses, insufficient to do harm, in which it has been by some recommended, nothing material was known, till the happy experiments of Dr. Storck, lately published (*d*), gave room to hope not only that the virtues ascribed to it in external applications are better founded than practitioners in general seem now to suppose, but likewise that it is a plant of very great importance as an internal medicine.

Dr. Storck relates, that bags of the dry leaves, quilted together, boiled for a few minutes in water, (or in milk, where they could not otherwise be borne, on account of their smell and the itching they produced) then squeezed from the superfluous liquid, and applied warm, checked the progress of very bad gangrenes, and procured a separation of the corrupted parts: that the same application, in a person of sixty who had been gouty for many years, immediately abated the pains, softened and dissolved the tophaceous concretions, and occasioned the next fit to be milder and of shorter continuance: that its effects were likewise considerable in œdematous tumours, scirrhus strumæ, indurations of the glands of the breast, and in very bad cancers: that nevertheless some received from it no benefit, though no one harm: that in inflammations or hot serous tumours, it was less proper than in the above cases, or had place only after evacuations: and that plasters, containing the juice of the hemlock, often resolve and dissolve what resists all other applications. It is in the form of plaster that this herb, among us, has been chiefly made use of: the recent juice is mixed with a solution of twice its quantity of gum ammoniacum made in vinegar of squills, and the mixture boiled down to a due consistence*.

For internal purposes, he directs the juice, while fresh, to be inspissated (*coquatur*) in an earthen vessel over a very gentle fire, and kept continually stirring to prevent its burning, till it acquires the consistence of a thick extract; which is to be mixed with so much

* Emplastrum
de cicuta cum
ammoniaco
Pharm. Edinb.

E e 2

of

(*a*) *Historia plantar. Ludg. Bat. p. 94. Haller, Stirpes helveticæ, p. 434.*

(*b*) Quippe videre licet, pinguescere sæpe cicuta

Barbigeras pecudes, homini quæ est acre venenum. *Lucretius.*

(*c*) Cicuta, præfens illud venenum, si coquitur in aceto, sine noxa comedi potest, quod probavi aliquoties, experimenti ergo, Lugduni Batavorum, ubi in fossis extra urbem frequens crescit, *Lindebolpe, de venenis, edit. Stentzel. p. 431.* Cicutæ caules, aceto macerati, impune comeduntur, & ipse edi. *Id. p. 781.*

(*d*) *Libellus quo demonstratur cicutam, &c. Vindobonæ, 1760.*

of the powdered leaves, as will reduce it into a mass fit for being formed into pills. This preparation, he says, was given to a little dog, in the quantity of a scruple; taken by himself, in doses of one and two grains, every morning and evening, for several days; continued by persons in health, for a year or two; increased, in some cases, to a dram and a half in a day; without producing any ill consequence, or affecting any of the actions, secretions, or excretions of the body. It nevertheless had very powerful and salutary effects in some reputed incurable diseases; acting, though slowly and insensibly, as a high resolvent: he relates histories of inveterate scirrhuses, cancers, and the worst kinds of ulcers and fistulæ, being completely cured by it; and says it resolves also recent cataracts, or at least restrains their progress. He begins always with small doses; giving one pill, of two grains, first twice a day, then thrice a day, and gradually increasing the number to six or more for a dose. The good effects of the medicine were sometimes visible in a few days; though the cure generally required several months.

The trials of this medicine, made among us, have not, as yet, so far as I can learn, been accompanied with so much success. I have been informed of some cases, in which it was apparently of great benefit; of some, in which it did no service; and of some, in which it affected the speech and hearing. It were to be wished, that the author had been more explicit in regard to the preparation of the medicine: for there are grounds to presume, that its qualities will vary, not a little, according to the season or term of age at which the plant is gathered; according as the juice is inspissated entire, or suffered previously to settle; and according to the consistence of the extract requiring a greater or less proportion of the leaves in substance to be mixed. The preparers of the extract in this country, have generally depurated the juice; though Dr. Storck's direction of inspissating it *while recent* seems to imply that it is to be taken before it has suffered any separation of its parts.

The root of hemlock is generally supposed to be, both in external applications and when taken internally, of more activity than the leaves. Storck relates, that on being cut, it yields a bitter acrid milk, of which a drop or two, applied to the tip of the tongue, occasioned a rigidity, pain, and swelling of the part, so as to prevent speech; and that he was freed from this complaint, by washing and rubbing the tongue with citron juice. In drying, it seems to lose of its virulence: he says he has taken a grain or two of the powder without

without injury: there are instances of twenty and thirty grains being given, with advantage, in schirruses of the liver, &c. (a), in quartan agues on the approach of a fit, and even in acute fevers (b). Nor does the fresh root appear to be at all times of equal virulence: I have seen it chewed freely, without any other effect being perceived, than an impression of sweetishness resembling that of parsley roots or carrots: there are instances of some drams, and even ounces, having been taken, without producing any ill consequence (c). So variable does this plant appear to be in its qualities; if really the subject of the several histories was precisely the same species of plant.

The seeds have been recommended by some as demulcent, pargoric, and antaphrodisiac. Of their real qualities, little more is known with certainty, than that they are innocent to some kinds of birds: Mr. Ray says, he found the crop of a thrush full of hemlock seeds, even at the season when corn was plentiful.

C I M O L I A.

TWO sorts of argillaceous earth are directed under this name in catalogues of the materia medica: CIMOLIA ALBA seu argilla alba Pharm. Edinb. the pure white strong clay, commonly called, from the use to which it is principally applied, Tobacco-pipe clay: and CIMOLIA PURPURASCENS Pharm. Edinb. Smeētis seu terra saponaria anglica Worm. a compact solar earth, commonly of a greyish brown colour, called, from its use, Fullers earth.

THESE earths appear to be nearly of the same medical qualities with the boles formerly treated of; but are rarely or never employed, at least under their own names, for any medicinal purposes. If the virtue of these kinds of substances depends, as it most probably does, on their soft viscous quality, (for they do not appear to have any other, by which they can act in the bodies of animals) the white cimolia is obviously the most effectual of them all.

(a) Renealm, *Observ.* iii. & iv. Etmuller, *Schræder dilucidat.* par. i. sect. ii. p. 111.

(b) Bowle, *apud Raium, hist. plant.* i. 451.

(c) Petiver, *Philosopb. transact. Abr.* Lowthorp. ii. 641. Henley, *ibid.* Jungius, *Eph. nat. curios.* dec. i. ann. iv. obs. 106. Trew, *Commerc. lit. Norimberg.* ann. 1740 hebdom. 47.

C I N A R A.

C I N A R A.

CINARA, Scolymus. *Cinara hortensis foliis non aculeatis C. B.*
 ARTICHOKE: a rough plant, with large greyish leaves, divided almost to the rib into irregularly indented segments: among these arises a thick stalk, bearing a large scaly head, which, opening at top, sends out a number of purplish blue flosculi, followed by whitish seeds winged with down. It is perennial, a native of the southern parts of Europe, and cultivated in our culinary gardens.

THE bottoms of the heads, and the fleshy part of the scales, are supposed to be of easy digestion; but gross, flatulent, and of little nourishment. The leaves are bitter, and give out their bitterness, along with their juice, on being bruised and pressed. The expressed juice is given in dropsies, and in some instances has proved successful after the medicines more commonly made use of in that disorder had failed: for this purpose, the juice, not depurated, or freed only from its grosser feculency by passing it through a coarse strainer, is mixed with equal its quantity of white wine, and three or four spoonfuls or more of the mixture taken every morning and evening. Its operation is chiefly by urine.

C I N N A B A R I S.

CINNABARIS NATIVA Pharm. Edinb. *Minium Græcorum.* NATIVE CINNABAR: a ponderous, red, sulphureous ore of mercury; found in Spain, Hungary, and several other parts of the world. The finest is imported from the East Indies; partly in pretty large irregular masses; partly in smaller roundish ones, smooth without, and striated within; both externally and internally of an elegant deep red colour, which is greatly improved by grinding the mass into fine powder.

Cinnabar consists of quicksilver and common brimstone; in the proportion of not less than four (a), commonly six or seven (b) parts of the mercury, to one of the sulphur: the finer its colour, the more mercury and the less sulphur it is found to hold. The native cinnabar generally contains also a quantity of earthy matter, from which

(a) Lemery, *Cours de chimie*, part. i. chap. viii. operat. 2.

(b) Cramer, *Elem. art. docimast.* tom. i. edit. ii. p. 287. Malouin, *Chim. medicin.* part. iv. cb. 38.

which it may be purified by sublimation. If this earth should be of the calcareous kind, or if calcareous earths, iron filings, or other substances that absorb sulphur more strongly than mercury does, be added; more or less of the sulphur, proportionably to the quantity of such absorbent addition, will be detained at the bottom of the subliming vessel: on this principle, the coarser cinnabars may be freed from their redundant sulphur as well as from their earthy matter, and thus rendered of a high colour: or the whole of the sulphur may be detained, by an increase of the absorbent material, and the pure mercury distilled off in its running form: one part of lime or iron filings is generally sufficient for extricating all the mercury from four parts of cinnabar. The humid menstrua, that dissolve either one or the other of the ingredients of cinnabar by themselves, have little effect upon the compound; the mercury being protected by the sulphur from the action of acids, and the sulphur by the mercury from that of alkaline liquors: alkalies indeed, even in the dry way of sublimation, do not so perfectly absorb the sulphur as bodies of the earthy or metallic kind.

Native cinnabar has by many been preferred, as a medicine, to that which is made by art, but apparently on no good foundation. The only difference between them consists in this; that the native is subject to an admixture of heterogeneous matters, which are not perhaps always innocent(*a*); and that the proportions of its constituent ingredients are more precarious than in the factitious. See page 91.

C I N N A M O M U M.

CINNAMOMUM Pharm. Lond. & Edinb. Cinamomum sive canella zeilanica C. B. Cassia cinamomea Hermann. hort. Lugd. Bat.

CINNAMON: the bark of a tree of the bay kind, growing in the island Ceylon: freed from the outer green or greyish part, and cut into long slices, which curl up, in drying, into quills or canes, the form in which it is brought to us; very thin, light, of a reddish yellow or pale rusty iron colour, somewhat tough in breaking, and of a fibrous texture like wood. It is frequently mixed with another bark, greatly resembling it in appearance, but much weaker in virtue,

(*a*) Accidit nonnunquam quod . . . nauseas & vomitiones excitet, necnon etiam anxietates circa præcordia: quod & ipse bis terve observavi, licet cinnabaris pluribus lotionibus purgata fuisset. *Geoffroy, mat. med. i. 246.*

virtue, *casia lignea*: this last is distinguished by the close smooth surface which it exhibits on being broken, and by its remarkably slimy taste. See page 190.

THIS bark is one of the most grateful of the aromatics; of a very fragrant smell, and a moderately pungent, glowing, but not fiery taste, accompanied with a considerable sweetness, and some degree of astringency. It is said, that the fine flavour resides, originally, only in the thin pellicle, which lines the interior surface of the bark, and which abounds with vesicles of essential oil; the rest of the bark, while fresh, being merely subastringent, and receiving the flavour, which we find it to have, from the inner pellicle in drying (a). Accordingly the thinnest pieces are found to be strongest; as containing the largest proportion of this active part, and the least of the inert woody matter.

Cinnamon, infused in boiling water in a close vessel, gives out to the fluid greatest part of its virtue; together with a reddish brown tincture, deeper or paler, according to the proportion of cinnamon employed. Rectified and proof spirit extract its virtues more perfectly than water, and without the assistance of heat: three ounces of the powdered bark, by cold maceration for a few days, give a strong impregnation to a quart of proof spirit*.

* Tinctura
cinnamomi
Pharm. Lond.

† Aqua cin-
nam. simp.
Pharm. Lond.
sine vino P.E.

‡ Ol. essent.
cinnamom.
Ph. L. & Ed.

The aromatic principle of this spice is an essential oil; which, in distillation with water, rises slowly and difficultly, and renders the liquor somewhat milky: the water continues to run milky, and gratefully impregnated with the fragrance of the cinnamon, till about a gallon has been drawn off from a pound†: when large quantities of the spice are submitted to the operation at once, a small portion of oil ‡ commonly separates and sinks to the bottom of the water; in colour gold yellow; of a delightful smell like that of the cinnamon itself; and of a fiery pungency, so as not to be safely tasted or applied to the skin without dilution; for, as Boerhaave observes, it burns to a gangrenous eschar: in doses of a drop or two, diluted by the means of sugar, mucilages, &c. it is one of the most immediate cordials and restoratives, in languors, singultuses, and all debilities of the vis vitæ. If the milky distilled water be long kept, great part of the ponderous oil, suspended in it, separates and subsides: some, with a view to the perfection of the water, endeavour to prevent this separation, by adding a small proportion of sugar, which contributes to keep the oil dissolved: others, with a view only to

the

(a) *Acta acad. cæsareæ nat. curios. vol. i. ann. 1727. Append. p. 8.*

the obtaining of the oil, endeavour to promote the separation, by setting the liquor in a very cold place, and perhaps by other means not commonly known. It is said, that from sixteen ounces of good cinnamon, about two drams of oil may be collected.

The watery decoction, remaining after the distillation, yields, on being inspissated, a mildly astringent mass, which has nothing of the sweetness, any more than of the peculiar flavour of the cinnamon. It is observable, that this extract is free from the nauseous relish which most of the other spices discover, in a greater or less degree, when divested by the same means of their proper aromatic matter.

Rectified spirit, distilled from cinnamon, brings over very little of its flavour. An extract, made by this menstruum, retains nearly all the valuable parts of the spice, the sweet aromatic matter as well as the restringent: it has a durable and very grateful warmth and pungency, not a fiery heat like the spirituous extracts of many other spices; the heat and pungency of cinnamon residing in the pure essential oil. The quantity of this extract is about one sixth of that of the cinnamon employed.

On distilling proof spirit from this spice, the purely spirituous part, which comes over first, proves almost flavourless, but the watery part which follows brings with it the essential oil; and this oil being dissolved by means of the spirituous portion, the liquor proves limpid. A cordial water of this kind is commonly prepared in the shops, by drawing off a gallon of proof spirit from a pound of cinnamon*. A like preparation might be obtained rather more advantageously, and free from the foreign flavour which the common proof spirits are accompanied with, by adding to the simple water a suitable quantity of pure rectified spirit.

* Aq. cinnam.
spirituos. P.L.
cum vino P.E.

SOME other products of the cinnamon tree are used medicinally in the eastern countries, and have been sometimes, though very rarely, brought into Europe; to wit, an aromatic essential oil distilled from the roots†, and a species of camphor which separates from this oil on redistilling it‡; an oil drawn from the leaves, similar in flavour to the genuine oil of cloves with a little admixture of that of the cinnamon bark§; and a whitish sebaceous matter||, said to resemble the expressed oil of nutmegs, obtained either by expression or by coction in water from the fruit (a).

† Ol. caphuræ.

‡ .Caphura
barosindrum.

§ Oleum ma-
labathri.

|| Cera cinna-
momi.

F f

C I T R E A.

(a) Albertus Seba, *Acta academiae cesariæ, ubi supra*, p. 11, 12.

C I T R E A.

CITREA MALUS Pb. Ed. *Malus medica* C. B. CITRON: a small evergreen tree, resembling the lemon, and differing from it chiefly in the fruit; which is much larger, less juicy, and contains, under the yellow rind, a thicker fungous white bark. It is a native of Asia, and cultivated in the southern parts of Europe.

THIS fruit has a near affinity with lemons in its medicinal qualities as well as in its external form: the principal difference lies, in the juice of the citron being somewhat less acid, and the yellow rind being somewhat hotter and accompanied with a considerable bitterishness. The rind gives out its virtue, equally with that of lemons, both to watery and spirituous menstrea; but its flavour is not equally retained in the spirituous extract, the essential oil of citron peel being very light and volatile, so as in great part to rise in distillation along with the highest rectified spirit. Several varieties of these trees are common in the warmer climates. Oils obtained from the fresh peels of the more odoriferous kinds*, by rolling the fruit on a plane stuck full of points, are brought from Italy, and used as perfumes: these are somewhat more grateful, and considerably less pungent, than such as are drawn by distillation with water. The oil prepared in either of these ways is very subject to lose of its fine flavour, and become thick and resinous in keeping: when distilled with rectified spirit, and afterwards separated from the spirit by dilution with a large portion of water, it retains much longer its odour, fluidity, and limpidness.

* Essentia de
cedro German.
Ol. cedrinum
Pharm. Paris.

C O C C I N E L L A.

COCCINELLA Pharm. Lond. *Cochinilla* Pharm. Edinburg. COCHINEAL: little wrinkled grains, of an irregular figure, convex on one side and flat or somewhat hollowed on the other, externally of a dark red colour generally sprinkled with a whitish clammy powder, internally of a deep bright red. This substance, brought from Mexico and New Spain, supposed formerly the seed of a plant, appears to be an insect of the scarabæus kind, in its chrysalis or maggot state, found adhering to the leaves and branches of the opuntia

opuntia or American prickly pear tree, and carefully preserved and cured by the natives.

THE principal use of cochineal is as a colouring drug. It gives a fine deep durable red both to rectified and proof spirit, and a deep purplish crimson to water: neither the watery or spirituous infusions suffer any change of their colour on being inspissated to the consistence of an extract. Neutral salts make little variation in its tincture: volatile spirits heighten it: fixt alkalies render it dark and dull: a small quantity of the mineral acids brightens, a larger destroys it: a little solution of tin, made in aqua regis, changes it into a scarlet.

Cochineal has been sometimes used also in a directly medicinal view, and supposed to act as a mild corroborant and diaphoretic. It has a faint musty kind of smell, and a very slight bitterish roughish taste; both which are taken up, along with the colouring matter, by watery and by spirituous menstrua, and, though scarcely perceptible in the dilute tinctures or infusions, are very sensible in the inspissated extracts, particularly in that made with spirit. Cartheuser observes, that the mucilagineo-bitterish watery extract amounts to three fourths of the weight of the cochineal; and the balsamico-bitter and moderately astringent spirituous extract, to nearly as much.

C O C H L E A R I A.

SCURVYGRASS: a low plant; with thick juicy leaves, somewhat hollowed so as to resemble a spoon, those from the root standing on long pedicles, those on the stalk joined close to it without pedicles; producing, towards the upper part of the stalks, small white tetrapetalous flowers, followed by roundish seedvessels. It is annual; grows wild in several parts of England, particularly about the sea coasts and salt marshes; and flowers in May or sooner.

I. COCHLEARIA HORTENSIS *Pb. Lond. & Edinb.* *Cochlearia folio subrotundo C.B.* Garden or Dutch scurvygrass: with the radical leaves unevenly roundish, and those on the stalks oblong. It is commonly cultivated, for the use of the shops, in gardens; and does not appear, like many other maritime plants, to change its qualities with the soil.

2. COCHLEARIA MARINA *feu britannica.* *Cochlearia folio sinuato C.B.* English or sea scurvygrafs: with all the leaves alike; oblong, pointed, deeply and irregularly indented or sinuated.

THE fresh leaves of these plants have an ungrateful nidorous kind of smell, and a penetrating acrid taste: the first sort is considerably the strongest, and hence has long superseded the use of the other. The flowers and seeds also are notably pungent, but less so than the leaves.

Scurvygrafs is a powerful antiseptic, attenuant, and aperient: it manifestly promotes the sensible excretions, particularly urine, without heating or irritating so much as might be expected from its great pungency. It is one of the capital antiscorbutic herbs, and in this intention has been principally made use of, in conjunction, generally, with mild vegetable acids, or substances of less acrimony, as orange juice, sorrel, becabunga, &c. It is of service also in paralytic and cachectic indispositions; and in the wandering rheumatic pains, of long continuance, unaccompanied with a fever, called by Sydenham the scorbutic rheumatism. I have had frequent experience of the efficacy of the composition which he prescribes in this commonly obstinate distemper, and which, he says, if the public had not outweighed private advantage, he should have concealed; to wit, sixteen parts of fresh made conserve of garden scurvygrafs, eight of conserve of wood sorrel, and six of the compound powder of arum root, made up with syrup of orange peel into an electary, of which two drams are to be taken thrice a day for a month, along with some ounces of a distilled water impregnated with scurvygrafs, mint, nutmegs, &c. Among different aromatic materials made trial of for covering the ill flavour of scurvygrafs, nutmegs seemed to answer the best.

The active matter of this plant is extracted by maceration both in watery and in spirituous menstrua, and accompanies the juice obtained by expression. The most considerable part of it is of a very volatile kind; the peculiar penetrating pungency totally exhaling, in the exsiccation of the herb, and in the evaporation of the liquors; and only a slight biting bitterness remaining in the dried leaves, in the inspissated juice, and in the spirituous as well as in the watery extracts. The fresh leaves, beaten into a conserve with thrice their weight of fine sugar*, may be kept, in a close vessel, without much diminution of their virtue, for many years. The juice also, purified from

*Conserv. fol.
cochl. hort.
Ph. L. & E.

from its feculencies by settling and straining, may be preserved for a considerable time (though by no means equally with the conserve) by setting it in a cool place, and covering the surface with a little oil to prevent the access of air. The orange or sorrel juice, commonly added to that of the scurvygrafs, seem to promote the depuration; for if the juices, separately, are made moderately fine, they soon deposite, on being mixed, a fresh feculence.

The principal virtue of this plant resides in an essential oil; separable, in very small quantity, by distillation with water. The oil is so ponderous, as to sink in the aqueous fluid; but of great volatility, subtilty, and penetration. One drop, dissolved in spirit, or received on sugar, communicates to a quart of wine or other liquors the smell and taste of scurvygrafs. It rises in distillation with rectified spirit as well as with water: a pint of rectified spirit, drawn off, in the heat of a water bath, from two pounds of the fresh herb bruised*, brings over nearly all the oil, and proves exceeding strongly impregnated with the volatile pungency of the scurvygrafs. Both the oil and the spirit, particularly the former, require the bottles they are kept in to be very carefully secured; the subtile matter of the plant, when thus disengaged by distillation from the grosser parts, being extremely disposed to escape.

*Spirit: cochleariæ *Pb. Ed.*

C O F F E A.

COFFEA Pb. Ed. COFFEE: a pale coloured oval seed, somewhat smaller than a common bean, convex on one side, flat on the other with a remarkable furrow. It is the produce of a tree of the jasmine kind, (*jasminum arabicum castaneæ folio, flore albo odoratissimo, Commelin. hort. amst.*) growing spontaneously in Arabia, and thence introduced into the West Indies: the fruit of the tree is a juicy berry, including two of the seeds, joined by the flat sides, and covered each with a thin shell.

COFFEE seeds have a farinaceous, somewhat unctuous, bitterish taste, and little or no smell: the flavour, for which they are valued, is procured by gentle torrefaction; and some of our own farinaceous seeds and kernels acquire, by that process, a flavour somewhat of the same kind. The roasted seeds, ground into powder, soon lose their flavour in the air, impart it to water and spirit by slight coction or digestion, and give it over with water in distillation. An extract made

M A T E R I A M E D I C A.

made from them by water is, not disagreeably, bitterish: an extract made by rectified spirit is stronger, and not a little nauseous.

The dietetic use of coffee is said to strengthen the stomach and promote the secretions; to be serviceable in phlegmatic corpulent habits; to be injurious in thin habits and bilious temperaments, in melancholic and hypochondriacal disorders, and to persons subject to hemorrhages.

C O L O C Y N T H I S.

COLOCYNTHIS Ph. Ed. *Colocyntidis medulla* Ph. Lond.

COLOQUINTIDA or BITTER GOURD: the dried medullary or pulpy part of a species of gourd or cucumber, (*cucumis foliis multifidis, pomis globosis glabris* Linn. spec. plant.) brought from Aleppo. It is very light, white, of a fungous texture, composed as it were of membranous leaves, with a number of roundish seeds lodged in the cavities.

THE fungous medulla, freed from the seeds, (which are somewhat unctuous and sweetish, like those of the common cucumber) has a nauseous, acrid, intensely bitter taste. It is a very strong irritating cathartic; commended by some, not only as an efficacious purgative, but likewise as an alterative in obstinate chronical disorders; by others condemned, as a dangerous and deleterious drug. Thus much is certain, that when given by itself, in substance, in such doses as to purge effectually, as eight or twelve grains, it operates for the most part with great vehemence; disordering the constitution, occasioning violent gripes and sometimes bloody discharges. Its principal use is as a stimulus to other purgatives.

Colocynth, boiled in water, renders a large quantity of the liquor ropy and slimy: even a tincture of it made in proof spirit is so glutinous, as not to pass through a filter, and not easily through a common strainer. The watery decoctions, inspissated, yield a large proportion, half the weight of the colocynth or more, of a mucilaginous extract; which purges strongly, but with much less irritation and greater safety than the colocynth itself, and appears to be the best preparation obtainable from this drastic drug. The college of Edinburgh uses a soft extract of this kind (made from colocynthida and black hellebore) for mixing into pills with scammony and aloes; that of London directs a tincture of the colocynthida in proof spirit,

in which the scammony and aloes are to be dissolved, and the whole inspissated together. Both these forms are greatly preferable to those in which the colocynth in substance is joined to the same materials.

C O N E S S I.

CONESSI med. eff. Edinb. Codago-pala Hort. malabar. Pb. Paris.
 CONESSI: the bark of a small tree, growing in the island Ceylon and Malabar; of a dark blackish colour on the outside, covered more or less with a white moss or scurf: the bark of the small young branches, which has the least of this matter, is preferred. It has but lately been introduced into Europe, and is as yet little known in the shops.

THIS bark, to the taste gratefully austere and bitter, is recommended in the Hortus Malabaricus for the cure of diarrhœas; and its efficacy in this disorder has been confirmed in the Edinburgh medical essays. The bark, freed from the scurf, is directed to be made into an electary with syrup of oranges, and taken to the quantity of half a dram or more four times a day: it sensibly loses of its roughness and its virtue if kept for two or three days, in the form either of powder or electary; and hence fresh quantities are to be prepared at least every other day. It is said, that the first day of taking the medicine, it increases the number and quantity of the stools, without increasing the gripes: that on the second day, the colour of the stools is mended; and that on the third or fourth day, if it succeeds at all, their consistence generally comes near to a natural state: that in recent diarrhœæ, from irregularities, it seldom fails to cure, if a vomit, of ipecacoanha, is given immediately before its use: that the same management succeeds in persons of a lax habit, to whom diarrhœæ are familiar in moist weather: but that, in any case, if a fever is joined, the coneSSI has no place till the fever is removed. Mr. Monro informs us, that he cured a dysentery of three years standing, which had yielded nothing to a great variety of other medicines, by giving this bark in the form above prescribed.

C O N S O L I D A.

C O N S O L I D A.

CONSOLIDA major sive symphytum majus Pb. Edinb. *Symphytum consolida major* C. B. COMFRY: a rough plant; with large, somewhat oval, pointed leaves; producing, on the tops of the branches, spikes of white or purplish, pendulous, nearly cylindrical flowers, followed each by four shining black seeds: the root is thick and fleshy, black on the outside and white within. It is perennial, grows wild in moist grounds, and flowers in May or June.

THE roots of comfry abound with a viscid glutinous juice, of no particular taste or flavour. The dried root, boiled in water, renders a large proportion of the fluid slimy: the decoctions, inspissated, yield a strong flavourless mucilage, similar to that obtained from althea, but somewhat stronger-bodied or more tenacious, and in somewhat larger quantity, amounting to about three fourths the weight of the comfry. From this analysis it may be presumed, that the consolida, though rarely employed in practice, is rather superiour to the althea in the several intentions in which that root is made use of; the mucilaginous matter being, in both roots, the only medicinal principle.

C O N T R A Y E R V A.

CONTRAYERVA Pharm. Lond. *Contrayerva sive drakena* Pharm. Edinb. CONTRAYERVA or COUNTERPOISON: the root of a small plant (*dorstenia sphenodylii folio, dentariæ radice, Plum: gen.*) growing in Peru and other parts of the Spanish West Indies. The root is an inch or two in length, and about half an inch thick; full of knots and irregular tubercles; surrounded on all sides with numerous long tough fibres, most of which are loaded with scaly knobs; of a reddish brown colour on the outside, and pale within. It was first brought into Europe, about the year 1581, by Sir Francis Drake, whence its name *Drakena radix*.

THIS root, freed from the fibres, (which are much weaker than the tuberous part) has a light aromatic smell; and a roughish, bitterish, penetrating taste, which, as Fuller observes, is not easily concealed by a large admixture of other substances. It is given, as a diaphoretic and antiseptic, in low and malignant fevers, and appears to be one of the mildest and safest of the substances of the pungent kind

kind commonly made use of in these intentions; not being liable to produce, though taken pretty freely, any considerable heat. The dose, in substance, is from five or six grains to half a dram and more; in decoction or infusion, from half a dram to two drams.

Contrayerva root gives out its virtue, by the assistance of heat, both to water and rectified spirit; and tinges the former of a dark-brownish red, the latter of a brighter reddish colour: the watery decoction is very mucilaginous, so as not to pass through a filter. In distillation or evaporation, pure spirit elevates nothing, and water very little of its virtues; the active matter of this root being of the fixt kind, and remaining nearly entire in the watery as well as in the spirituous extracts. The extract made by rectified spirit tastes strongly of the contrayerva, and leaves in the mouth a durable, glowing, vibrating kind of pungency, like that of peppermint, but far milder: its quantity is about three drams from sixteen of the root. The quantity of watery extract is more than double to that of the spirituous, and its taste proportionably weaker.

C O P A L .

COPAL Pharm. Edinb. COPAL: a resinous concrete, obtained from certain large trees growing in New Spain. It is brought to us in irregular masses; some of which are transparent, and of all the intermediate shades of colour from a light yellow to a deep brown; others are whitish and semitransparent. There are probably the same differences in the juice as it first issues from the trees; some of the copal trees being said to yield a white, and others a gold coloured resin (a).

THESE resins, however various in appearance, are in quality very nearly if not entirely alike. They have a more agreeable smell than frankincense, to which some have resembled them, and do not melt so thin, or burn away so fast, on a red hot iron: they do not soften in the mouth on being chewed, like anime, with which they have been confounded by others. From those, and from all the other known resinous bodies, they differ more remarkably, in being exceedingly difficultly dissoluble in rectified spirit of wine: it is said, that the spirit is made capable of dissolving them, by previously

G g

impregnating

(a) Hernandez, *Plantarum, &c. mexicanorum historia*, p. 45.

M A T E R I A M E D I C A.

impregnating it with vitriolic acid, with volatile alkaline salts, or with camphor. The medicinal effects of the copals are not much known, as they have never been much in use: they are recommended as warm corroborants.

C O R A L L I N A.

CORALLINA Pharm. Edinb. Muscus maritimus sive corallina officinarum C. B. CORALLINE, SEA MOSS, WHITE WORMSEED: a marine production, common on rocks, shells, &c. resembling a small plant without leaves; consisting of numerous slender jointed branches, generally of a greyish or whitish colour, sometimes greenish, yellowish, reddish, or blackish; of a brittle stony substance, friable betwixt the fingers, and crackling between the teeth. It has been commonly supposed a vegetable; but late observations afford grounds to believe, that it is of an animal origin: it is apparently the habitation, and probably the production, of marine polypi.

POWDERED coralline has been celebrated in doses of from half a scruple to a dram, as an anthelmintic; probably on too slight foundation. As usually met with in the shops, it has no smell, and very little if any taste. It is almost wholly dissolved by aqua fortis, is precipitated from this acid by the admixture of the vitriolic, and by calcination in a strong fire becomes a true quicklime; proofs that it consists chiefly of an absorbent calcareous earth, and that it is of the same general nature with the crabs-claws, oyster-shells, and other testaceous marine bodies.

C O R A L L I U M.

CORALLIUM rubrum Pharm. Lond. & Edinb. RED CORAL: a hard, brittle, branched substance, resembling the stalk of a plant; usually about the thickness of a goose quill; full of knots; sometimes straight, and sometimes variously bent; both externally and internally of a deep bright red colour. It is found adhering to rocks and other bodies in the sea, particularly in the Mediterranean; covered with a soft fungous bark, in which is a great number of cells curiously divided, containing a milky juice, with apertures on the surface: this

this cortical part is separated while fresh and soft. It has been generally referred to the vegetable kingdom; but is more probably, like the preceding, the work and the nest of little animals.

RED coral appears to have for its basis the same calcareous animal earth as the corallines and the shells of sea fishes: like them, it is changed by calcination into quicklime, dissolves in all acids except the vitriolic, and is precipitated by this last from its solutions made in the others. It is used also, like those productions, as an absorbent of acid humours in the first passages; and like them, when satiated with such acids as are generated in the bodies of animals, it forms therewith a restringent saline compound: see *terrea absorbentia*. That it has any virtues distinct from those of the other calcareous absorbents, or that it is superiour in absorbent power to the cheaper testaceous bodies, there are no grounds to suspect.

The levigated coral * is sometimes counterfeited in the shops with the common testacea coloured with dragons blood or red bole. These abuses may be discovered, by shaking the powder with water and suffering it to settle, when the white and the colouring matter will separate from one another and appear in great part distinct: dragons blood may be known likewise by its giving a red tincture to spirit of wine, and bole by its retaining its redness in the fire whilst coral burns white.

* Corallium
preparatum
Ph .L. & Ed.

C O R I A N D R U M .

CORIANDRUM Pharm. Lond. & Edinb. *Coriandrum majus* C. B. CORIANDER: an umbelliferous plant, with finely divided leaves; producing pale yellowish or brownish, striated, hemispherical seeds, which are joined, by the flat sides, two together. It is annual, a native of Italy, and cultivated in some parts of England.

THE leaves of coriander have a strong smell, somewhat of the aromatic kind, but not a little disagreeable. The seeds also have, when fresh, a very unpleasant flavour, which by drying is altered and becomes tolerably grateful: their taste, in this dry state, is moderately warm and slightly pungent.

The dried seeds are sometimes employed as a stomachic and carminative, though less frequently than the other warm seeds. They give out their virtue totally to rectified spirit, but only partially to

water: the spirituous tincture is of a pale bright yellow colour, the watery infusion of a deeper brownish. In distillation with water, they yield a small quantity of a yellowish essential oil, which smells strongly and pretty agreeably of the coriander. Pure spirit likewise carries off, in evaporation or distillation, great part of their flavour; the spirituous extract proving, in taste as well as in smell, considerably weaker than the tincture uninspissated.

C O R N U C E R V I.

CORNU CERVI Pharm. Lond. & Edinb. HARTSHORN: large branched horns of the hart or male red deer. The horns usually met with in the shops are those of the common or fallow deer.

HARTSHORN, rasped or shaved, gives out to water, by boiling, a soft gelatinous matter, of scarcely any particular flavour, amounting, when inspissated, to about one fourth the weight of the horn. The decoction and gelly are sometimes directed in diarrhœas and other disorders, partly as affording a mild nutriment, and partly for obtunding and incrassating acrimonious thin humours. An elegant hartshorn gelly is prepared, by boiling half a pound of the shavings in three quarts of water till two parts are wasted, and adding to the strained liquor, before the inspissation, an ounce of Seville orange or of lemon juice, a quarter of a pint of mountain wine, and half a pound of fine sugar*. Compositions of this kind are extremely grateful to many in acute diseases.

* Gelatina
cornu cervi
Pharm. Edinb.

On distilling the horn with a red heat, it gives over a volatile salt and spirit, together with a fetid empyreumatic oil. The same products are obtainable, in greater or less quantity, from all animal substances, though those prepared from hartshorn have been in most general use: see *sal alkalinus volatilis*.

† Cornu cervi
philosophice
præparatum.

‡ Cornu cervi
calcinatum
Ph. L. & Ed.

The horns so far freed from their gelatinous matter as to be pulverable, either by boiling them in water or by exposing them to its steam†, have been used by some in the same intentions as the absorbent earths: by calcination in a strong fire, with the free admission of air, their earthy part may be obtained in a much purer state‡; in quantity about one half of the weight of the original horn. The calcination may be performed in a potter's furnace; or by stratifying the horns with charcoal in any common furnace or stove, and setting the whole on fire together: the horns, after the burning, retain their figure,

figure, and some degree of hardness, so as to be easily separable from the ashes into which the vegetable coal is reduced. The horns remaining after the distillation of the volatile salt are as proper for this use as fresh ones.

The pure earth of hartshorn differs from that of coral and the testacea, in not being convertible into quicklime; and agrees with them, in being dissoluble by the vegetable, nitrous, and marine acids, and in being precipitated from these acids on the addition of the vitriolic. The earth of the horns, and of the bones also, of other animals, appears to be of the same nature with that of hartshorn.

How far this species of earth differs from the others in its medicinal effects, is little known. It is customary, in acute diseases accompanied with a looseness, to impregnate the common drink with the calcined hartshorn levigated into an impalpable powder, on a supposition of its acting as a mild restringent: solutions of it in vegetable acids are apparently restringent, as they discover a degree of austerity to the taste; but the pure earth is insipid. Hoffmann reports, that this earth, when combined with acids, is more disposed, than the other absorbents, to promote perspiration. See *terrea absorbentia*.

C O S T U S.

COSTUS Ph. Lond. *Costus orientalis* Ph. Edinb. *Costus dulcis officinarum* C. B. *COSTUS*: a root, brought from the East Indies, about the size of the finger, of a pale greyish or whitish colour on the outside, and yellow within. An *Arabian*, a *bitter*, and a *sweet* costus were formerly distinguished in the shops: whether they were, as some suspect, the roots of different plants, or, as others, of one and the same plant in different states, does not fully appear. At present, only one sort is met with, and this but rarely.

THIS root has been recommended as a stomachic, uterine, diaphoretic, and diuretic. The editor of the Wirtemberg pharmacopœia observes, that it impregnates the urine, like the turpentine, with a violet smell. The smell of the root itself approaches to that of violets or Florence orris: its taste is warm and bitterish. Both the smell and taste are confined chiefly to the brittle cortical part, the internal tough woody matter having very little of either.

Decoctions

M A T E R I A M E D I C A.

Decoctions of costus in water are of a brownish colour, a bitter taste, and less grateful smell than the root in substance: in evaporation they diffuse a very disagreeable scent: the inspissated extract is moderately bitter, of scarcely any particular flavour, in quantity amounting to no less than two thirds the weight of the root; in keeping, it soon grows mouldy, and dusty on the surface. The spirituous tincture is of a bright yellow colour, a bitter aromatic taste, and a more agreeable smell than the watery decoction: inspissated, it yields a very warm, pungent, bitter extract, of an aromatic flavour, less grateful than that of the costus itself, in quantity not exceeding one ninth the weight of the root.

C R E T A.

CRETA Ph. Lond. & Edinb. CHALK: a pure white mineral calcareous earth, met with in most parts of the world, of various degrees of hardness. The softer masses, included in sea shells (which are common in chalk pits) called from their figure chalk eggs, are by many preferred to the others for medicinal use.

There are innumerable concretes in the mineral kingdom, of the same general nature with chalk; or which consist chiefly, or wholly, of the same earth, formed into masses, which differ from one another little otherwise than in their external appearance, compactness, or texture. Such are, the *limestones*; the *marbles*; some of the *marles*; the fine earth called *agaricus mineralis*, *medulla saxi*, or *luc lunæ*: the transparent crystalline concretes called *spars*; most of the *petrefactions*; and most of the *stalactitæ*, or the earthy matter, which, in its concretion from waters, incrustates the sides of caverns, or hangs in icicles from the tops. Many of these bodies were formerly introduced into medicine, from an erroneous supposition of their possessing distinct qualities: chalk, one of the purest of them, is the only one now retained in practice; nor would the art suffer any detriment, if a like reduction was made in the analogous bodies furnished by the animal kingdom.

The distinguishing characters of this earth, in all its forms, are, its not dissolving in the vitriolic acid, though readily dissolving in all the others; its being precipitated by the vitriolic acid from its solutions in the others, and being thus changed into a selenites; its being convertible, by calcination with a strong fire, into quicklime; and its melting

melting easily, with vitrefactive fluxes, into a transparent glass. In this last property it differs from the calcareous animal earths; which appear to be unvitrescible, communicating, to a large proportion of vitrous matters, an opaque milkiness.

PURE chalk is a very useful absorbent in cardialgic and other complaints from acidities in the first passages. For this purpose it is formed, in the shops, into troches, with sugar and a little nutmeg; and generally with the addition of some of the other absorbent earths, which add nothing to its virtue; and into juleps, by mixing the chalk, levigated into a subtile powder, with water, in the proportion of half an ounce to a pint; with the addition of two * or three † drams * Julepum e creta Ph. L. of sugar, and one dram of gum arabic to give some consistence to the liquor, so as to enable it to keep the powder suspended: some boil the chalk (an operation at all necessary) in a larger quantity of † Decoctum cretaceum Pharm. Edinb. water, continuing the coction till it is reduced to the above proportion, and adding towards the end half a dram of bruised nutmeg †.

When chalk is combined with such acids, as may be deemed most analogous to those which are preternaturally generated in the human stomach, as sour milk and sour vegetable liquors; the compounds prove somewhat more austere than those resulting from the coalition of the same acids with the animal absorbents: hence chalk, given in cases of acidities, is generally observed to bind the belly more; a circumstance to be attended to in its use. But that it has any astringent power, as many have supposed, independently of its combination with acids, or in disorders where there are no acid juices in the first passages to dissolve it, is not so clear: the sense of astringency, which the chalk in substance produces in the mouth, appears to proceed, like that of the bolar earths, only from its adhering to the part and imbibing its moisture.

C R O C U S.

CROCUS Ph. Lond. & Edinb. *Crocus sativus* C. B. *Crocus autumnalis sativus* Morison. hist. SAFFRON: a bulbous rooted plant, with narrow grass-like leaves which have a white line running along the middle: the stalk is short and undivided, and bears on the top a purplish blue flower, deeply cut into six segments: in the middle of the flower arises, among the stamina, a whitish pistil, divided at the top into three chives or fleshy filaments, the lower part of which is slender

slender and pale coloured, the upper broader, of a deep orange red, and very finely indented about the sides: these filaments, carefully picked, and pressed together into cakes, are the saffron of the shops. The plant is perennial, and flowers in autumn: the common spring crocuses of our gardens are reckoned by Linnæus to be no other than varieties of it.

Saffron is cultivated in different parts of the world: that produced in our own country is greatly superiour to the sorts brought from abroad, and may be distinguished from them by its blades being broader. It should be chosen fresh, not above a year old, in close cakes, neither dry nor yet very moist, tough and firm in tearing, of a high fiery colour, and of the same colour within as on the outside.

SAFFRON is a very elegant and useful aromatic; of a strong, penetrating, diffusive smell, and a warm, pungent, bitterish taste. It is supposed to have a considerable degree of anodyne power, depending on its subtile odorous principle; to be more cordial and more exhilarating than almost any of the other aromatics, so as, when taken too freely, to occasion even immoderate mirth^(a); to be particularly serviceable in disorders of the breast, in female obstructions, and hysteric depressions. It tinges the urine of a high colour. The dose is commonly two or three grains to ten or twelve: Geoffroy says it may be extended with safety to a scruple and more.

* Vinum cro-
ceum *Ph. Lon.*

† Tinctura
croci *Ph. Ed.*

‡ Syrupus
croci *Ph. L.*

Saffron gives out the whole of its virtue and colour to rectified spirit, proof spirit, wine, vinegar, and water: about three parts in four of the saffron are taken up by each of these menstrua; and the matter which remains undissolved is inodorous, insipid, and of a pale clay colour. The officinal tinctures are made with sack * or French brandy†, in the proportion of an ounce to a pint: by dissolving in the vinous tincture a proper quantity of fine sugar, (twenty-five ounces to a pint‡) an elegant cordial syrup is obtained. Tinctures drawn with vinegar, or other liquors sensibly acid, soon lose of their rich colour in keeping: the colour of the vinous tinctures also fades a little, and a part of the dissolved saffron is apt to be in time thrown off: those made in proof spirit, and in rectified spirit, particularly the latter, may be kept in perfection for years.

In distillation, it impregnates water strongly with its flavour: if the quantity of saffron is large, a small portion of a fragrant and very pungent essential oil may be collected, amounting, as is said, to about

(a) Hertodt, *Crocologia*, p. 32. Boerhaave, *Elementa chemiæ*, process. 65.

about a dram and a half from sixteen ounces. The remaining decoction, inspissated, yields an extract of a high colour, in taste unpleasantly bitterish, without any thing of the distinguishing smell or flavour of the saffron.

Rectified spirit elevates also a considerable share of its flavour, but leaves much the greatest part concentrated in the extract. This extract, inspissated only to the consistence of oil, is recommended by Boerhaave as one of the highest cordials and exhilarants: the dose is a few drops, which may be taken in a glass of rich wine. It dissolves in wine and in water, as well as in spirit, and mingles also with oils both expressed and distilled; appearing to be a substance of a peculiar nature. The spirit, distilled from saffron, is said to have an advantage above most other cordial spirits, of disposing the patient to sweat.

C R Y S T A L L U S.

CRYSTALLUS Pharm. Edinb. ROCK CRYSTAL: a transparent colourless stone; of a regularly angular figure, which is generally that of an hexagonal column terminated by a pyramid of the same number of sides; hard, so as to strike fire freely with steel; becoming white, opaque, and friable, by repeated ignition and extinction in water; not dissoluble by any acid, either in its natural state or when calcined; fusible, with vitrefactive fluxes, into a nearly colourless glass.

Rock crystal, and some other stones of the same general nature, introduced into medicine by the credulity of former times, not yet expunged from catalogues of the materia medica, and in some places still made ingredients in officinal compositions; appear, from their indissolubility in every known species of humid menstruum, to be incapable of exerting any action in the human body: unless that by the rigidity and hardness, which their particles retain, however finely levigated, they may offend the stomach and intestines; or that by virtue of the calcareous earth, which they abrade plentifully from the marble instruments with which they are levigated, the prepared powder may act as an absorbent.

THE colours of the *precious stones* appear to depend on a principle distinct from the stony matter which makes their basis. It is said, that the sapphire, emerald, amethyst, and cornelian, on being urged

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with

with a strong fire, become colourless, and nearly similar to common crystal: that the emerald, in parting with its tinging matter in the fire, emits visible flames(*a*): that the hyacinth and garnet melt in a vehement fire, into a vitreous mass, of a brownish or blackish colour, like that which ferrugineous calces communicate(*b*). From these kinds of experiments it has by some been inferred, that the coloured precious stones, though their stony basis is confessedly inactive, may, nevertheless, have some medicinal powers depending on the tinging metallic impregnation(*a*). But surely this reasoning does not take off the impropriety, or rather absurdity, of using as medicines, these costly concretes, from a possibility of their producing effects, which far cheaper substances are known to produce with certainty.

C U B E B Æ.

CUBEBÆ Pharm. Lond. & Edinb. Cubebæ vulgares C. B.
 CUBEBS: dried berries, greatly resembling pepper, but furnished each with a slender stalk, whence they are called by some *piper caudatum*. They are the fruit of an East Indian tree, of which we have no particular account, said to resemble the apple tree, and to produce its berries in clusters.

CUBEBS are a warm spice; of a pleasant smell, and a moderately pungent taste. Their heat and pungency are weaker than those of pepper, but of the same kind; and reside, like those of that spice, not in the volatile but in the more fixed matter. In distillation with water, they yield a small quantity of a ponderous essential oil, of an agreeable and moderately strong smell, but in taste mild: the remaining decoction, inspissated to the consistence of an extract, retains a considerable share of the warmth and pungency of the cubebs. An extract made with rectified spirit possesses the whole of their flavour in perfection, for even the odorous principle does not exhale or distil with this menstruum: the taste of this extract is very hot and pungent, though not near so much so as that of the spirituous extract of pepper.

(*a*) Geoffroy, *Tract. de mat. med. tom. i. p. 95.*

(*b*) Pott, *Chymische untersuchungen von der lithogeognosia, p. 45.*

C U C U M I S.

CUCUMBER: an annual herb, with naked monopetalous flowers divided into five segments, and a large juicy fruit produced under the flower. Thus far the characters of the cucumber agree with those of some other plants, whose seeds have been commonly ranked among the officinals, and which may properly be placed together.

1. **CUCUMIS HORTENSIS** *Pb. Edinb.* *Cucumis sativus vulgaris* C. B. Cucumber: with oblong fruit, often covered with little protuberances; and oblong white seeds.

2. **CITRULLUS** *Pharm. Edinb.* *Anguria citrullus dicta* C. B. Citrul: with very large, roundish, smooth hard rinded fruit; and oblong, broad, rhomboidal, blackish seeds.

3. **CUCURBITA** *Pharm. Edinb.* *Cucurbita lagenaria flore albo, folio molli* C. B. Gourd, bottle-gourd: with very large, thick woody rinded fruit, bellied like a bottle; and long whitish seeds, having two angles like horns at the top.

4. **PEPO** *Pharm. Edinb.* *Pepo vulgaris Raii hist.* Common pumpkin: with very large, roundish or oval fruit; and rhomboidal whitish seeds, having a rim or elevated line round the edges.

THE cucumber and citrul are esteemed cooling and relaxing; salubrious in hot bilious dispositions, and where there is a tendency to inflammation; prejudicial in the opposite circumstances; difficult of digestion, and of very little nourishment.

The seeds of all these plants are similar in quality; and have been generally used promiscuously, and distinguished by the title of the greater *cold seeds*. They have a sweetish taste, accompanied with some unctuousity, and no smell or particular flavour: on expression, they yield a soft insipid oil, of the same general nature with that of almonds: on trituration with water, their oil, by the mediation of the mucilaginous and farinaceous matter of the seed, unites with the water into an emulsion or milky liquor. These emulsions have been used as diluents, refrigerants, and emollients, in the same cases as those prepared from sweet almonds; which last are now almost universally preferred. The seeds in substance have likewise been made ingredients in some officinal emollient powders; for which

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purposes

purposes they are not well adapted, as being liable to grow soon mouldy and rancid in keeping, especially in a powdery form: those of the cucumber seem to be the least subject to this inconvenience.

5. CUCUMIS AGRESTIS *Pb. Lond.* *Cucumis asininus Pb. Edinb.*
Cucumis silvestris asininus dictus C. B. Wild cucumber: with warty, hairy, somewhat oval fruit, not above two inches in length: the fruit, when ripe, bursts on being touched, and throws out with violence its whitish juice and its black seeds. It is sown annually, as all the preceding, in gardens.

ALL the parts of the wild cucumber are strongly purgative: the fruit appears to be somewhat more so than the root, and this than the leaves. The juice that issues spontaneously, or by very light pressure, on flitting the fruit when almost ripe, has an unpleasant smell, and a very durable nauseous bitter taste: on standing for a few hours, it parts into a thick matter which settles to the bottom, and a thin watery fluid, which floats above; this last may be commodiously drained off, after the clearer part is decanted, by means of stripes of woollen cloth or skains of cotton laid over the sides of the vessel. The thick fecula*, dried in the sun or any other gentle heat, is a very strong, irritating, but slow, cathartic; and often operates likewise upwards. It remarkably raises the pulse, and seems to kindle a degree of fever for a time: Lister and Hoffmann observe, that its effect in increasing the pulse is perceivable even in the extremities of the fingers. Its use therefore is in cold indolent phlegmatic cases; particularly in dropries, in which it has sometimes been given with success after medicines of a milder kind had proved ineffectual. Two or three grains are in general a sufficient dose: in some cases this quantity has acted violently: in others, five grains have procured plentiful evacuation, without much uneasiness or disturbance to the constitution. It is said, that in Holland, an extract made with wine from the roots of the plant is substituted to the elaterium, and has been found to be equally efficacious and safe: though Boulduc(a) speaks of an extract of this root, (made probably with water) which appears to have been much weaker; the dose being from twenty-four to thirty grains. In what kind of matter the purgative virtue of this plant resides, has not been sufficiently examined: Boulduc
says,

* Elaterium
Pb. L. & Ed.

(a) *Histoire de l'acad. roy. des scienc. de Paris, pour l'ann. 1719.*

says, that spirit of wine has scarcely any action upon it: and that water is not its proper menstruum appears from its quitting the watery juice and settling to the bottom.

C U P R U M.

CUPRUM Pharm. Lond.

Cuprum five venus Pharm. Edinb.

COPPER: a reddish metal, nearly nine times specifically heavier than water; requiring for its fusion a strong white heat, and calcining by a continuance of a weaker red heat into a dark reddish powder; contracting, from long exposure to the air, a greenish rust; soluble in all acids and in volatile alkaline spirits, and exhibiting, when dissolved, a blue or green colour, or a colour composed of the two. Volatile spirits, in particular, receive from a small proportion of it a beautiful deep blue; and if added to solutions of it made in acids, when so far diluted as to appear almost or altogether colourless, change them immediately to the same fine colour. If a piece of bright iron be immersed in the acid solutions, the acid quits the copper to attack the iron; and the copper, in its separation from the menstruum, adheres to the iron, which soon appears covered with a cupreous coat. On these principles, very minute quantities of copper, dissolved in liquors, may be readily discovered.

There are considerable mines of copper in England, Sweden, Germany, and many other parts of the world. The ores are often, wholly or in part, of beautiful blue or green colours like those of the solutions: all the mineral stones, tinged with these colours, are supposed to receive them from this metal. Most of the ores abound with sulphur; which this metal very strongly retains, and which is difficultly separated by repeated calcinations and fusions.

PURE copper, in its metallic state, or calcined by fire, appears to be indissoluble, and of no considerable effect, in the bodies of animals. There are instances of pieces of copper having been swallowed, and lying long in the bowels, without seeming to act any otherwise than by their bulk or figure.

Dissolved in the nitrous or marine acids, and crystallized or exsiccated by heat, it proves a strong caustic. These preparations, particularly that with the nitrous acid, were formerly sometimes made use of in this intention; but have long been laid aside, on account of their great disposition to liquefy.

Combined

Combined with the vitriolic acid, or with the acids of the vegetable kingdom, or corroded by the air, it acts, when externally applied, as an efficacious detergent and a gentle escharotic; when taken internally, as a virulent emetic and cathartic. Some have ventured on small doses of these preparations, as quick emetics, for procuring immediate evacuation where poisonous substances have been swallowed: but that end may surely be obtained by less dangerous means; see *æruugo* and *vitriolum*.

A saturated solution of the metal in volatile spirits is recommended by Boerhaave in disorders proceeding from an acid, weak, cold, phlegmatic cause. He says that if three drops be taken in the morning with a glass of mead, and the dose doubled every day to twenty four drops, it proves attenuating, warming, and diuretic: that by this medicine he once cured a confirmed ascites, though in other cases of the same kind it failed: that it is the only preparation of copper which does not prove emetic; and that, as it does no harm, it may be tried with safety (a). It is probable, that this preparation differs from the preceding only in containing less copper, the quantity which volatile spirits dissolve being extremely small; and that in considerable doses, it would exert the same virulent operation with the other solutions or soluble preparations of this metal.

A tincture, differing little in its cupreous impregnation from that made with volatile spirits, is used in the shops as an external detergent, and for consuming specks or films of the eyes. This is prepared with a solution of sal ammoniac in lime-water, in the proportion of a dram † or two * to a pint; which solution is tinged of a sapphire blue colour by standing for some days with some slips of copper or in a copper vessel.

Aq. sapphirina

Ph. Lond.

* Ph. Edinb.

Copper vessels, in certain circumstances, give a taint to almost all kinds of liquors, even to pure water; more especially if they have not been thoroughly cleansed from the rust which they contract by lying exposed to a moist air: in certain circumstances, however, they appear to resist even liquors of considerable acidity. Most of the vegetable acids, so long as they are kept boiling in copper vessels, have little or no action on the metal; though in a gentle heat, or in the cold, they become in a short time impregnated with its ill taste and with its pernicious qualities, corroding it chiefly at the surface of the liquor: if the metal is only moistened and exposed to the air, it is corroded more speedily; and sooner still if exposed to the

(a) *Elementa chemicæ, process.* 192. & *Prax. med.* tom. V. p. 174.

the vapours of the acid. The most acid syrups are prepared by the confectioners, by boiling in copper vessels kept perfectly clean, without receiving any hurtful impregnation; whereas the far less acid liquor, that rises towards the end of long protracted distillations of simple waters, corrodes so much of the copper head, in its passage in the form of vapour, as to prove emetic.

Brass, (*æs*, *Pharm. Edinb.*) is a combination of copper with the metallic part of calamine, that is, with zinc, a metallic body still easier of dissolution than the copper itself. The two metals, nevertheless, form by their coalition a new compound, which does not rust in the air, or dissolve in vegetable acids, or calcine in the fire, near so soon as either of them separately.

C U R C U M A.

CURCUMA Pharm. Lond. & Edinb. Curcuma radice longa Herm. hort. lugd. bat. Maniella kua Hort. malabar. Crocus indicus, & terra merita, & cypira quibusdam. TURMERIC: a small tuberous knotty root, brought from the East Indies; externally greyish, internally of a deep lively yellow or saffron colour, which by age changes more and more towards a red. Two sorts are mentioned by authors; one longish, the other roundish: only the first is met with in the shops.

TURMERIC has a slight, aromatic, and not very agreeable smell; and a bitterish somewhat warm taste. It readily gives out its active matter both to aqueous and spirituous menstrua: to the former it communicates its own deep yellow, to the latter a fine yellowish red tincture. In distillation with water, it yields a small quantity of a gold coloured essential oil, of a moderately strong smell, and a pungent taste: the remaining decoction, inspissated, leaves a bitterish, considerably saline, mass. Rectified spirit elevates little or nothing of its virtue; all the active parts of the root being left behind in the inspissated extract, which is moderately warm, and bitter, and not a little nauseous.

This root is said to be in general use in the eastern countries, both for the colouring and seasoning of food, and as a medicine: it is accounted one of the most effectual remedies in obstructions of the viscera and mesentery, which are there frequent, in uterine disorders, difficulties

difficulties of urine, and affections of the kidneys (a). Among us it has been employed also as a deobstruent, and esteemed by some a specific in the jaundice: the dose in substance is from a scruple to a dram; in decoction or infusion, twice as much. It tinges the urine of a deep yellow colour.

C Y A N U S.

CYANUS Pharm. Paris. Baptifecula. Cyanus segetum C. B.

BLUE BOTTLE, HURTSICKLE: a greyish green plant, with long narrow leaves, of which the lower are deeply jagged, the upper entire and equal, those between furnished with one or two long perpendicular ears on each side towards the bottom: the stalk divides, near the top, into several branches, each of which is terminated by a large blue flower, consisting of tubulous indented flosculi set in a smooth scaly head; the outer flosculi are larger than the inner, and widened in the upper part like a funnel; the scales are serrated about the edges. It is annual, common in cornfields, and found in flower greatest part of the summer.

THE flowers of cyanus, hastily dried, preserve their colour better than most of the other blue flowers: they agree with the others in giving no blue tinge to spirit, and differ from most of them in giving none to water. In substance, they discover very little smell, and scarcely any taste: an extract made from them by rectified spirit has a weak saline austerity mixed with a kind of sweetishness: an extract made by water is less austere and more manifestly saline. From hence it may be presumed, that among the various and opposite virtues ascribed to these flowers, the antiphlogistic, aperient, and diuretic ones have the best foundation; though even these they appear to possess only in a low degree.

The varieties of this plant, produced by culture in gardens, are not materially different in quality from the wild sort. Another species, of oriental origin, *cyanus orientalis major moschatus flore purpureo & albo Moris. hist. ox.* commonly called sultan flower or sweet sultan, promises, by its musky fragrance, to have a good claim to the cordial and antispasmodic virtues, which some have groundlessly ascribed to our indigenous cyanus.

C Y D O N I A.

(a) Bontius, *Animadvers. in Garciam ab Orta, lib. i. cap. 39.*

C Y D O N I A.

CYDONIA MALUS Pharm. Lond. & Edinb. *Cotonea malus* J.B. QUINCE: a low tree, with uncut leaves, bearing a fruit like a pear; a native of the rocky banks of the Danube, and common in our gardens.

THIS fruit has a pleasant strong smell, and a very austere acid taste. Its expressed juice, taken in little quantities, as a spoonful or two, proves a mild, cooling, restringent stomachic; of good service in nausæ, vomitings, nidorous eructations, and alvine fluxes. A grateful and lightly cordial restringent syrup is prepared, by digesting three pints of the depurated juice with a dram of cinnamon, half a dram of ginger, and half a dram of cloves, on warm ashes, for six hours, then adding a pint of red port, and dissolving in the strained liquor nine pounds of sugar*. An useful restringent gelly or marmalade is made, by boiling the juice with fine sugar to a due consistence, in the proportion commonly of three pints to a pound†. If the quinces, after they are gathered, be kept for some time in a dry airy place, their juice will become richer by the dissipation of a part of their aqueous humidity.

* Syrupus
cydoniorum
Pharm. Lond.

† Gelatina seu
miva cydoni.
Pharm. Edinb.

The seeds of quinces abound with a mucilaginous substance, which they readily give out to boiling water. A dram, boiled in six ounces of water by measure renders the liquor slimy, almost like the white of an egg‡: two drams make it quite thick. On inspissating the decoctions, the quantity of dry extract amounts to about half the weight of the seeds. This mucilage has a slight agreeable smell, and a sweetish taste, more grateful than that of the other mucilages commonly made use of. In keeping, in its soft state, it soon grows mouldy.

‡ Mucilago
sem. cydonior.
Pharm. Lond.

C Y M I N U M.

CYMINUM Pharm. Lond. *Cuminum* Pharm. Edinb. *Cuminum semine longiore* C.B. CUMMIN: an umbelliferous plant, resembling fennel, but much smaller; producing longish, slender, plano-convex seeds, of a brownish colour with pale yellowish striæ. It is annual; a native of Egypt and Ethiopia; and cultivated in the islands of Sicily and Malta, from whence we are supplied with the seeds.

CUMMIN seeds have a bitterish warm taste, accompanied with an aromatic flavour but not agreeable. They give out great part of their smell by infusion in water, but very little of their taste: in distillation with water, a pungent oil arises, of a strong ungrateful flavour like that of the seeds: the decoction, inspissated, leaves a weakly roughish bitterish extract. Rectified spirit takes up the whole virtues of the cummin by infusion, and leaves them nearly uninjured in evaporation: the inspissated mass is very warm, moderately pungent, and not a little nauseous.

These seeds are accounted good carminatives and stomachics; but have now, in great measure, given place, for these purposes, to medicines of a more grateful kind. Their principal use is in external applications, as a warm discutient and antiseptic.

C Y N O G L O S S U M.

CYNOGLOSSUM Pharm. Paris. *Cynoglossum majus vulgare C.B.* *Lingua canina.* HOUNDS TONGUE: a biennial plant; producing, the first year, large, soft, tongue-shaped, long-pointed leaves; the second year, a thick, branched stalk, with narrower and shorter-pointed leaves joined to it without pedicles; bearing, on the tops of the branches, dark purplish flowers, each of which is divided into five segments, and followed by four flat rough seeds: the root is oblong, thick, of a dark brown or blackish colour on the outside, and white within. It is found wild in shady lanes and uncultivated grounds.

THE roots of hounds-tongue are very juicy, and liable to grow mouldy in drying. Such as are produced in moist grounds have, when fresh, a rank, though not very strong smell, like that of the narcotic plants, which in drying is in good measure dissipated: those, which are the produce of dry grounds, have scarcely any smell (*a*). On the organs of taste, they make no great impression.

The medical effects of these roots are somewhat doubtful. It has been generally supposed that they are narcotic; by some, that they are virulently so. The argument for their innocence (*b*), from the frequent and safe use of a pill, to which they still give name in foreign

(*a*) Hermann, *Cynosura mat. med. edit. Boecler. tom. i. p. 178.*

(*b*) Geoffroy, *Mat. med. iii. 395.* Ray, *Hist. plant. i. 490.*

foreign pharmacopœias, appears unfair; the quantity of the hounds-tongue root, in a dose of that opiate pill, being only about a grain; whereas the root by itself is ordered, in decoction, to the quantity of an ounce, in catarrhs, coughs, diarrhœas, dysenteries, and hemorrhagies.

The leaves of the plant are supposed to be of the same quality with the roots: to the smell, they are stronger and more disagreeable. Fuller reports, that he has used a syrup of the juice a multitude of times, and could never find it to cause sleep or be in the least virulent; and that he had often experienced it to be a great remedy, second to none, against hot, sharp, thin, catarrhus humours, and a cough occasioned thereby. For my own part, I have had no experience of the virtues of this plant, nor is it ever made use of in practice; all the good effects, which the accounts of those who have recommended it afford grounds to expect from it, being obtainable, without suspicion of malignity, from the products of the poppy. The colleges, both of London and Edinburgh, have rejected it from their catalogues of officinals.

C Y P E R U S .

CYPERUS: a plant with grass-like leaves, and three-square stalks, branched at top, bearing tufts of small imperfect flowers followed by triangular seeds. It is perennial.

I. CYPERUS LONGUS *Pharm. Paris.* *Cyperus odoratus radice longa sive cyperus officinarum C. B.* Cyperus or English galangal: with a long slender root, crooked and full of knots, of a dark brown or blackish colour on the outside, and whitish within. It grows wild in marshy places: the shops have been usually supplied from Italy and France, with dried roots, not superiour to those which are produced in some parts of England.

CYPERUS root has a pleasant aromatic smell, and a warm bitterish taste; both which it imparts almost totally to watery and to spirituous menstua: it tinges the former of a dark reddish brown colour, the latter of a bright reddish yellow. In distillation, it impregnates water with its grateful smell; but yields, at least when only moderate quantities are submitted to the operation, no separable oil: rectified spirit carries off likewise, in evaporation or distillation,

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a considerable share of its odorous matter. The watery extract is moderately bitter, slightly pungent, and subastringent: the spirituous is in taste stronger and warmer; but has not much smell, any more than the watery extract. The quantity of both extracts is very nearly alike, amounting to about one fourth of the weight of the root.

2. *CYPERUS ROTUNDUS Pharm. Paris.* *Cyperus rotundus orientalis major C. B.* Round cyperus: with several roundish roots, about the size and shape of an olive, connected by fibres, rough and rusty-coloured on the outside, whitish or yellowish within. It is a native of the East Indies, from whence the roots are sometimes, but rarely, brought to us.

THIS root has the same kind of smell and taste, and nearly in the same degree, as the foregoing. It differs, according to Cartheuser's examination of it, in giving a gold yellow tincture to water; in yielding a little more extract, one third its weight, both with water and spirit; and in the spirituous extract being more tenacious or resinous.

D A U C U S.

CARROT: an umbelliferous plant, with finely divided leaves; producing pale coloured, hairy, striated, somewhat oval, plano-convex seeds: the entire umbel, and each of its subdivisions, have a circle of little leaves at their origin.

1. *DAUCUS CRETICUS Pharm. Lond. & Edinb.* *Daucus foliis fasciculi tenuissimis C. B.* Candy carrot: with white flowers, flat umbels, and oblong seeds swelled or bellied in the middle. It is perennial, a native of the Levant and the mountains of Switzerland, and cultivated in some of our gardens. The seeds have been generally brought from the isle of Candy.

THE seeds of the candy carrot have a light aromatic smell, and a moderately warm biting taste. They have been occasionally employed as carminatives, and supposed likewise to be diuretic and emmenagogue: at present they are little otherwise made use of than as ingredients in mithridate and theriaca.

Water, digested on the seeds, becomes impregnated with their smell, but takes up very little of their taste: in distillation or evaporation,

poration, it elevates the whole of their smell and aromatic warmth, leaving a weakly bitterish mucilaginous extract: on distilling large quantities, a small portion of a yellowish essential oil is obtained, of a moderately pungent taste, and smelling strongly of the daucus. Rectified spirit takes up the whole of their virtue by digestion, and elevates nothing considerable in distillation: the remaining extract smells weakly, and tastes strongly, of the seeds. The colour both of the tincture and extract made with spirit, is a bright yellow; of those with water, brownish.

2. DAUCUS SILVESTRIS *Ph. Edinb.* *Staphylinus.* *Pastinaca silvestris tenuifolia dioscoridis vel daucus officinarum C. B.* Wild carrot, or birds nest: so called from the appearance of the umbels, which close and form a roundish cavity in the middle after the flowers have fallen: one or more of the inner flowers are commonly of a deep red colour, and several of the others red in part: the seeds are smaller, shorter and rounder than those of the preceding. It is biennial, common in uncultivated grounds, and flowers in June.

THE seeds of the wild carrot are similar in smell and taste to those of the *daucus creticus*, but weaker. The essential oils obtained from the two are nearly alike in quality, but somewhat different in quantity, the wild yielding a little less than the other. The spirituous extract of the wild is somewhat less pungent than that of the candy fort. Malt liquors, fermented with these seeds, receive from them an agreeable flavour somewhat resembling that of lemon peel, and become useful diuretic diet drinks in cachectic and scorbutic disorders. In the shops, they have frequently supplied the place of the *daucus creticus*, and been themselves supplied by the seeds of the garden carrot, which are much weaker in aromatic warmth than either.

D E N S L E O N I S.

DENS LEONIS *sive taraxacum Pharm. Edinb.* *Dens leonis latiore folio, & angustiore folio C. B.* *Urinaria quibusdam.* DANDELION OR PISSABED: a low plant, with long, narrow, deeply indented or jagged leaves, lying on the ground; among which arises a single, naked, hollow pedicle; bearing a large yellow flosculous flower, set in a double cup, the outermost of which consists of several little oblong leaves turned downwards: the flower is followed by small seeds,

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seeds, covered with a tuft of long down: the root is oblong, slender, yellowish or brownish on the outside, and white within. It is perennial, common in uncultivated grounds, and flowers from April to the end of summer.

THE roots, leaves, and flower stalks of dandelion abound with a bitterish milky juice, of no smell or particular flavour. They promise to be medicines of no inconsiderable efficacy in sundry chronical disorders, as mild detergents and aperients, similar to the *cichoreum silvestre*, but stronger. Boerhaave had a high opinion of this and the other lactescent plants; and esteems them capable, if duly continued, of removing very obstinate obstructions of the viscera, and resolving all kinds of coagulations. Their more immediate sensible operation is, to loosen the belly, promote the urinary discharge, and render the water high coloured, without exciting any preternatural heat.

The expressed juice of the plant has been taken to the quantity of a quarter of a pint or more, three or four times a day: it seems to lose nothing of its taste in being gently inspissated to the consistence of an extract; which is moderately and not unpleasantly bitter, with some degree of sweetishness. The dried roots, which are stronger in taste than the leaves, give out their virtues both to water and rectified spirit; and tinge the former of a brown, the latter of a yellow colour. The tinctures and infusions, gently inspissated, differ little from the inspissated juice; except that the watery extract is rather weaker; and that the spirituous, which is in smaller quantity, has a stronger bitter taste, and discovers also a slight astringency. Cartheuser says, that the watery extract amounts to one fourth, the spirituous only to one eighth the weight of the root.

Neither the plant in substance, nor its preparations, bear keeping well: after the dried root had lain about a twelvemonth, its bitterness was wholly lost, and only a slight sweetishness remained: an extract made from the fresh root, inspissated to dryness, and kept for the same length of time, suffered nearly the same change.

D I C T A M N U S.

D I C T A M N U S.

Dictamnus creticus Pharm. Lond. & Edinb. & C. B.
Origanum creticum latifolium tomentosum Tourn. DITTANY OF
 CRETE: a small, shrubby, branched, plant; with square stalks;
 short, broad, roundish leaves, covered with a thick white down, set
 in pairs at the joints; and purplish labiated flowers, in loose scaly
 heads or spikes, drooping downwards. It is perennial, a native of
 the island of Candy, and bears the ordinary winters of our own climate.
 The shops are generally supplied from Italy, with the leaves tied up
 in bundles, which are often damaged or effete, and at best not supe-
 rior to those of our own growth: they have now and then pieces of
 the flowery heads among them, but oftener stalks, and different
 foreign matters.

THE leaves of dittany of Crete have been chiefly recommended as
 emmenagogue, alexipharmac, and vulnerary. They are apparently,
 when in perfection, a very warm aromatic; of an agreeable smell,
 and a hot biting taste, resembling that of the *thymus citratus*, but stronger
 and more pungent. They impart their virtues both to water and
 rectified spirit; and tinge the former of a yellowish, the latter of a
 green colour. Distilled with water, they give over a moderately strong
 impregnation to the aqueous fluid; from which, if the quantity of
 dittany be large, there separates a small portion of a yellowish
 essential oil, of a highly pungent aromatic taste and smell, and which
 congeals in the cold into the appearance of camphor^(a): the remain-
 ing decoction, inspissated, leaves a bitterish, roughish, disagreeable
 mass, totally divested of the warmth and flavour of the herb. Rec-
 tified spirit, distilled off from the tincture made in that menstruum,
 brings over little or nothing of the virtue of the dittany: the spiri-
 tuous extract is a tolerably grateful and very hot pungent aromatic.

D I G I T A L I S.

Digitalis Pb. Paris. *Digitalis purpurea folio aspero* C. B.
 FOXGLOVE: a somewhat hairy plant; with oblong, acuminate,
 serrated leaves; and a thick, angular, hollow stalk, on which nume-
 rous purple tubulous flowers, resembled to the finger of a glove,
 hang

(a) Neumann, *Chemical works*, p. 399.

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hang downwards, in a row along one side, each on a short pedicle: the flower is followed by an oblong pointed capsule, full of small angular seeds. It is biennial; grows wild in woods and on heaths; and puts forth in May or June its elegant flowers, which often continue a month or longer.

THE leaves of foxglove have a bitterish very nauseous taste; which they communicate both to watery and spirituous menstrea. They have been strongly recommended in epileptic disorders: Parkinson relates, that after two or three fits had been suffered every month for twenty-six years, a cure was obtained by taking twice a week a decoction, made in ale, of two handfuls of foxglove leaves with four ounces of polypody of the oak. The operation of this medicine, or of the foxglove by itself, is by stool and vomit; and appears, from the accounts given of it by authors, to be so violent, as to afford sufficient foundation for the present disuse of the plant (a). Externally, the leaves and flowers have been employed, with greater safety, and sometimes, as is said, with success, in cataplasms and unguents for scrophulous ulcers.

D O R O N I C U M.

LEOPARDS BANE: a hairy plant, with uncut leaves, and yellow radiated discous flowers, which stand solitary upon long pedicles on the tops of the stalks and branches, and are followed by small seeds winged with down: the lower leaves have long pedicles, those which grow on the stalks have none. It is perennial.

I. DORONICUM GERMANICUM *sive arnica*, Pharm. Edinb. *Doronicum sive alisma* & *arnica germanorum* Pharm. Paris. *Doronicum plantaginis folio alterum* C. B. *Calendula alpina*. German
leopards bane: with oval, pointed, ribbed leaves, like those of
plantane,

(a) Poerhaave judges it to be of a poisonous nature, and says it is so acrid as to exulcerate the mouth, fauces, œsophagus and stomach. *Hist. plant. Lugd. Bat. p. 308.* & *Haller Stirp. Helvet. p. 617.* Dr. Alston, on the other hand, ranks it among those indigenous vegetables, “which, though now disregarded, are medicines of great virtue, and scarcely inferiour to any that the Indies afford.” *Index medicamentorum simplicium, præfat. p. 5.* For my own part, I have had no experience of this plant used as a medicine; and, in regard to the taste, little can be judged, from that quality, of the virtues of substances of this kind: the taste of the digitalis is strong and nauseous, but not near so acrid or pungent as that of many vegetables which are taken with great safety.

plantane, set. in pairs upon the stalk; and oblong roots. It is a native of the mountainous parts of Germany, and flowers throughout the summer.

THE leaves and flowers of this plant, have a penetrating bitterish taste; and emit, when bruised, a light pungent smell, which provokes sneezing. Both water and rectified spirit extract their virtues by infusion, and carry off a considerable share of them in evaporation. The roots are more of an aromatic nature than the other parts, and their active matter somewhat less volatile.

This plant has been greatly esteemed in different parts of Germany, as a specific for resolving coagulated blood occasioned by falls or bruises; from its efficacy in which intentions, it received the title of *lapsorum panacea*: the dose is an infusion of one or two pugils of the leaves, or flowers, or both, and in some cases of the roots. It is said, that soon after the taking of this medicine, a great pain is felt about the affected part, and generally a cardialgic anxiety of the stomach, with nausæa, reaching, and gripes, and sometimes extreme difficulty of breathing: that these symptoms are alleviated a little by walking about, and may be removed, if they should be very alarming, by venæsection: that in a short time, they terminate spontaneously in a copious discharge of urine, or in a profuse sweat, and sometimes in vomiting or purging (*a*). This herb is recommended likewise, in consequence of its supposed resolvent power, in sundry obstinate chronical disorders: it appears, however, to be much too violent in its operation for general use; unless the same success should be obtainable by repetitions of small doses, without the disturbance which a full one produces. Simon Paulli suspects (*b*), that it is made an ingredient in the malt liquors used in some places, by the common people, against bruises and other disorders.

2. DORONICUM ROMANUM: *Doronicum radice scorpii* C. B.
Doronicum graphoy dictum J. B. *Aconitum pardalianches minus quod falso doronicum vocant* Matth.
 Roman leopards bane: with obtuse heart-shaped leaves set alternately on the stalk, and slender knotty roots,
 K k

(*a*) Tabernæmontanus, *Herbar. lib. ii. sect. i. cap. xxii. p. 714. & sect. xi. p. 116.* Fehr, *Eph. nat. curios. dec. i. ann ix & x. obs. 2.* Gohl, *Art. med. Berolinens. vol. i. n. 4 p. 46.* De la Marche, *Dissert. de arnicæ viræ usu.*

(*b*) *Quadripartitum botanicum, p. 286.*

roots, supposed to resemble the scorpion's tail. It is a native of the Alps, cultivated in some of our gardens, and flowers in June or July.

THE root of the Roman leopards-bane has a sweetish somewhat astringent taste, accompanied with a weak aromatic flavour. Its medicinal qualities were formerly the subject of a considerable dispute; some affirming it to be poisonous, and others salutary. Gesner relates, that though it poisons dogs, he had himself many times eaten the herb as a grateful aromatic, and the roots also both fresh and dry, without perceiving any ill effect from them: that he had given the roots, with advantage, in vertiginous and epileptic cases: that nevertheless having once taken two drams of the powdered root, a swelling of the belly and stomach succeeded in about eight hours, accompanied by a weakness of the whole body; that these symptoms continued for two days, and that he was cured by a warm bath (*a*). The Augustan college, after once expunging the doronicum from their pharmacopœia, have lately received it again, and assure us, that experience has declared it innocent. It does not however appear (its innocence admitted) to be possessed of virtues sufficient to recommend it to practice. Among us, it has long been discarded; together with all the Arabian compositions, as an ingredient in which (from a presumption, not perhaps very well grounded, of its being their *duronegi*) it was originally introduced.

D R A C O N T I U M.

DRACUNTIIUM *sive serpentaria Pharm. Paris.* *Dracunculus polyphyllus C. B.* DRAGONS: a plant with smooth glossy leaves, set on long pedicles, divided into six or seven or more long narrow segments; and a single, thick, whitish stem, elegantly variegated with reddish or purplish streaks, composed as it were of membranes enveloping one another: on its top is a long sheath, greenish on the outside and purplish within, enclosing a dark coloured pistil, like that of arum but larger, succeeded by a cluster of red berries: the
root

(*a*) Some have alledged, that the taking of this root occasioned his death; (*Casp Hoffmann, de medicament. officinal. lib. ii. cap. iv. §. 8. Boerhaave, Hist. plant. Lugd. Bat. p. 151*) but the epistle in which he mentions his being cured of the symptoms which the doronicum had occasioned, is dated above five months after; and Simler, his cotemporary, who gives a particular account of his death, informs us that he was carried off by an epidemic disease.

root is large, roundish, externally yellowish, internally white. It is perennial, a native of the southern parts of Europe, and cultivated in our gardens.

THE dracontium appears to be similar, in medicinal virtues, as in botanic characters to arum; the roots and leaves being, like those of that plant, extremely acrimonious, seeming, when slightly tasted, to burn or corrode the tongue, and continuing to painfully vellicate the part for many hours. The acrimonious matter is likewise of the same kind in regard to its pharmaceutical properties; being in great part dissipated or destroyed by exsiccation; not being dissoluble either by watery or spirituous menstrua; not rising with either menstruum in distillation, but being destroyed in the process; being extracted, by expression, along with the watery juice; but soon separating from the aqueous fluid, and being now found, though not a little weakened, in the fecula or sediment. This plant might therefore be used in the same cases as arum, but general practice employs only the latter. So far as can be judged, between substances of such vehement pungency, the dracunculus is rather the strongest of the two.

E L A T I N E.

ELATINE Pharm. Lond. *Veronica femina seu elatine* Pb. Ed.
Elatine dioscoridis Lobel. adv. *Linaria segetum nummulariæ folio*
villosa Tourn. FLUELLIN OF FEMALE SPEEDWELL: a low, procumbent plant; with oval, acuminate, downy leaves, set alternately on the stalks: from their bosoms issue long pedicles, bearing irregular, monopetalous, labiated, gaping flowers, with a crooked tail or spur behind, followed by roundish capsules full of small seeds: the upper lip is of a dark purplish colour, the lower lip and the spur yellow. It is annual, grows wild in corn fields, and flowers in July.

THE leaves of *elatine* have a roughish very bitter taste, and scarcely any smell. Both watery and spirituous menstrua extract their active matter by infusion, and leave it entire in evaporation. This herb was formerly accounted an excellent vulnerary, detergent, and purifier of the blood. An extract made from it by water has been given in doses of a dram, and the expressed juice from three to five ounces, twice or thrice a day, and the juice applied also externally; against scorbutic and scrophulous disorders, and different kinds of old ulcers

* Mel elatines
Pharm. Lond.

and spreading sores. A decoction of it has been used likewise in glysters for alvine fluxes. A combination of its active matter with honey, prepared by boiling four pints of the depurated juice with four pounds of clarified honey*, is sometimes kept in the shops; but neither this preparation, nor the herb in any form, are at present much made use of.

E L E M I.

ELEMI Pharm. Ed.

Gummi elemi Pharm. Lond.

ELEMI:

a concrete resinous juice, said to be obtained from a large tree of the olive kind; brought from the Spanish West Indies, and sometimes from the East Indies, in oblong roundish cakes, generally wrapt up in flag leaves. The best sort is softish, somewhat transparent, of a pale whitish yellow colour, inclining a little to greenish. The faculty of Paris mentions a spurious elemi, or *gummi chibou*, which is not yet known among us.

ELEMI has a strong, tolerably pleasant, smell; and a slight bitterish taste. It gives out very little to aqueous menstrua, but almost totally dissolves in rectified spirit, tinging the fluid of a pale gold colour. Distilled with water, it yields a thin pale coloured essential oil, amounting to about one ounce from sixteen, of a moderately pungent taste, and smelling strongly of the elemi: a friable inodorous resin remains behind in the still. On submitting to distillation the solution made in rectified spirit, a little of the fragrance of the elemi arises with the spirit, greatest part remaining in the inspissated mass, which has a considerable share of the smell, though it makes little impression on the organs of taste.

This resin is scarcely otherwise employed among us, than as an ingredient in digestive ointments; one of the best of the officinal digestives, commonly called the ointment or liniment of *Arcaeus*, consists of six parts of the elemi, five or six of turpentine, and twelve of lard or of a mixture of lard and suet, melted together. This resin should nevertheless seem applicable to other purposes, and to be preferable, for internal use, to some resinous substances that have been held in greater esteem.

E L E U T H E R I A.

E L E U T H E R I A .

ELEUTHERIÆ CORTEX Pharm. Lond. *Cascarilla seu eleutheria* Pb. Edinb. *Cbacarilla. Zagarilla. Cortex peruvianus spurius, acris, aromaticus. Thus judæorum* Park. *Cortex thuris nonnullis dictus, vel thymiama, vel thus judæorum* Rai hist. (non vero thymiama germanorum). ELEUTHERIA OR CASCARILLA: the

bark, probably, of the shrub described and figured by Catesby under the name of *ricinoides elæagni folio* or *ilathera*, which grows plentifully in most of the Bahama islands (*a*). From those islands, particularly, as is said, from one of them called Elatheria (*b*), it is immediately brought to us; in curled pieces, or rolled up into short quills, about an inch in width; covered on the outside with a rough whitish matter, and brownish on the inner side; exhibiting, when broken, a smooth, close, blackish brown surface.

THIS bark, freed from the outer whitish coat (which is insipid and inodorous) has a light agreeable smell, and a moderately bitter taste, accompanied with a considerable aromatic warmth. It is easily inflammable, and yields, whilst burning, a very fragrant smell, somewhat resembling that of musk; a property which distinguishes the eleutheria from all other known barks (*c*).

Stiffer appears to have been the first who employed the cortex eleutheriæ as a medicine in Europe. He relates, that he received this aromatic bark from England; and that some time after, it was sold at Brunswick for Peruvian bark: that a tincture of it in alkalinized vinous spirits, or in dulcified alkaline spirits, proved carminative and diuretic, and did considerable service in arthritic, and scorbutic cases; and that if taken immediately after meals, it affected the head a little (*d*).

Eleutheria

(*a*) Essay towards a natural history of Carolina, Florida, and the Bahama islands.

(*b*) Dale, *Pharmacologia*, edit. iii. p. 346.

(*c*) This property seems to confirm the above account; that eleutheria (not of the growth of the East Indies as some have supposed, nor of the Spanish West Indies as others) is really the produce of the Bahama *ricinoides* of Catesby; whose bark, he says, infused either in wine or water, gives a fine aromatic bitter, and being burnt yields a fine perfume. Those, who imagine the eleutheria to be the bark of a Peruvian tree, seem to have been misled by the name *cascarilla*; which is applied by the Spaniards to the Peruvian bark strictly so called, and signifies no more than bark in general. See Hoffmann's *Dissertatio de cascarilla*, anno 1738. *Opusculum omnium supplement. ii. par. i. p. 704.*

(*d*) *Acta laboratorii chymici, Specim. ii. cap. ix & x. edit. ann. 1693. & de febribus intermittentibus consult. nov. cap. xvi.*

Eleutheria was soon after employed by Apinus, in an epidemic fever of the intermittent kind, which raged in some parts of Norway in 1694 and 1695. This disease, which at first had the appearance of an ordinary intermittent, was at length accompanied with petechial spots. The common alexipharmacs and sudorifics were found ineffectual: but the powder or extract of eleutheria, joined with them, proved successful, even after petechiæ had appeared: dysenteries, succeeding the fever, were removed by the same means. During the use of the eleutheria, the patient generally sweated plentifully, without loss of strength or other inconvenience: the belly was at the same time kept open, and those who did not sweat had commonly three or four stools a day: where the menstrual or hæmorrhoidal fluxes were suppressed at the beginning of the disorder, they generally, upon the use of this medicine, reappeared (*a*).

The gentlemen of the French academy found this bark of excellent service against an epidemic dysentery in the year 1719; in which, ipecacoanha proved ineffectual. Mr. Boulduc observes, that this last left a lowness and weakness of the stomach, which continued for a long time: whereas the eleutheria soon raised the strength, and promoted appetite (*b*).

At present, eleutheria is in great esteem among the Germans, as a warm stomachic and corroborant, in flatulent colics, internal hæmorrhagies, dysenteries, the diarrhœæ of acute fevers, and in common intermittents; in which last it is often joined to the Peruvian bark, and by many preferred to it, as being less subject to some inconveniences, which the other, by its great astringency, is apt to produce. Among us, it has but lately been received into practice; and its use is not yet become so general as it well deserves to be.

The virtues of eleutheria are partially extracted by water, and totally by rectified spirit: after the action of the former, it retains a considerable share of its flavour, after the latter it proves inodorous and insipid: the watery tinctures are of a reddish brown, the spirituous of a brownish orange colour. Distilled with water, it yields a greenish essential oil, of a very pungent taste, and of a fragrant penetrating smell, more grateful than that of the cascarilla itself, in quantity, according to Hoffmann's experiments, not exceeding one dram from sixteen ounces: the decoction, inspissated, leaves an extract of a moderate dull bitterness, much weaker than might have been expected from

(*a*) *Historica relatio febris epidemicæ, edita anno 1697.*

(*b*) *Histoire de l'acad. royale des sciences, pour l'ann. 1719.*

from the strong taste of the bark in substance. On inspissating the spirituous tincture, with a gentle heat, nothing considerable of the active matter of the cascarilla was found to arise with the menstruum: the remaining extract, nevertheless, was rather weaker in taste than the bark itself, and when thoroughly exsiccated, scarcely discovered any taste at all, being almost a pure resin, not dissoluble by the saliva. It is probably the dry pulverable extract that Cartheuser means, when he says it has no taste; and the extract in its moist state that was examined by Boulduc, who says it is bitter, biting, and aromatic.

E L I C H R Y S U M.

ELICHRYSUM five *stæchas citrina* Pharm. Paris. *Elicbrysum*
five *stæchas citrina angustifolia* C. B. *Heliocryson*; *Chrysocome*;
Coma aurea; *Amaranthus luteus*. GOLDILOCKS, CASSIDONY,

YELLOW STECHAS, ETERNAL FLOWER: a small, shrubby, downy plant; clothed with long, very narrow leaves; producing, on the tops of the branches, several small round heads of bright yellow scaly flowers. It is a native of the southern parts of France, flowers in our gardens in May and June, and holds its leaves all the winter.

THE flowers or scaly heads of this plant, naturally dry and firm, retain their figure and glossy yellow colour for years. Both the flowers and leaves, rubbed a little, yield an agreeable and moderately strong smell: to the taste they discover a considerable warmth, pungency, and bitterishness: from whence it may be presumed, that the aperient and corroborant virtues, commonly ascribed to them, are not wholly without foundation.

E N D I V I A.

ENDIVIA Pharm. Edinb. *Intybus*; *Scariola*; *Seriola*; *Seris*;
Intybus sativa latifolia five *endivia vulgaris* C. B. *ENDIVE*: a common culinary plant, resembling cichory in the flowers and seeds; and differing from it chiefly in being annual, and in the leaves being shorter, broader, and only slightly crenated, not jagged, about the edges.

ENDIVE agrees with cichory in quality as in appearance; containing, like it, a milky juice, of a bitterish taste, which it loses on being
blanched

blanched by culture: the greener the colour of the leaves, the greater is the bitterness of the whole plant. In its bitterest state, however, it is somewhat less so than the cichory.

E N U L A C A M P A N A.

ENULA CAMPANA Pharm. Lond. *Enula campana seu helenium* Pharm. Edinb. *Inula* Gesn. hort. *Helenium vulgare* C. B.

Aster omnium maximus Tourn. ELECAMPANE: a large plant, with long, wrinkled, oval, acuminate leaves, serrated about the edges, pale green above and hoary underneath, joined close to the stalk, which divides towards the top into several branches, bearing large yellow flowers of the radiated discous kind, followed by oblong seeds winged with down: the roots are short and thick, somewhat unctuous to the touch, brown or blackish on the outside, and whitish within. It is perennial, grows wild in moist rich soils, and flowers in June.

THE fresh roots of elecampane have a weak not very grateful smell; which, on thoroughly drying and keeping them for some time, is greatly improved and approaches to that of Florence orris. Chewed, they discover at first a kind of rancid glutinous taste, quickly succeeded by an aromatic bitterness, which by degrees becomes considerably pungent.

This root stands recommended as a diaphoretic, stomachic, for promoting expectoration in humoral asthmas and coughs, and for attenuating viscid juices in general, and disposing them to excretion: taken freely, it is said to gently loosen the belly, and increase the urinary discharge. The dose of the dry root in substance is from a scruple to a dram or two.

It gives out its virtue partially to aqueous, totally to spirituous menstrua: the former it tinges of a muddy yellowish, the latter of a bright pale yellow colour. In distillation with water, it gives over an essential oil, which concretes into white flakes, partly swimming on the water and partly subsiding, in quantity about one dram from thirty ounces, of no great heat or pungency, smelling at first pretty strongly of the elecampane, but very apt to lose its smell in keeping. Great part of the aromatic warmth and pungency, as well as the bitterness, reside in a matter of a more fixt kind, which does not easily exhale in the heat of boiling water, and is preserved in tolerable perfection

perfection in the watery extract*. Rectified spirit elevates little or nothing from this root: the spirituous extract is considerably stronger than the watery, though its pungency is not near so great as might be expected considering the smallness of its quantity: it scarcely exceeds one fifteenth the weight of the root, whereas the watery extract amounts to almost one half.

* Extractum
enulae camp.
Pharm. Lond.

E P I T H Y M U M .

EPITHYMUM Pb. Paris. *Epithymum sive cuscuta minor* C. B.
DODDER OF THYME: a plant without leaves, growing on thyme, consisting of a number of slender juicy filaments, producing here and there small heads of white or reddish flowers, which are followed by roundish capsules full of minute seeds.

Dodder receives its nourishment from the vegetable on which it climbs, its own roots quickly perishing. A large kind, vulgarly called hellweed, is common in heaths, upon furzes, nettles, &c. and in fields of flax and other manured herbs. The smaller sort, found upon thyme, has been generally preferred for medicinal use, and imported to us from Turkey and Leghorn, intermixed with stalks and tops of thyme. It is supposed by some, that the dodder partakes of the qualities of the plant by which it is supported.

DODDER of thyme has a pretty strong not disagreeable smell, and a peculiar kind of subtile pungent taste, very durable in the mouth, and sinking as it were into the tongue. Though it was early received into medicine, its medical qualities are not as yet known. The ancients accounted it cathartic, but when given by itself it is found to have very little purgative virtue. Some late writers recommend it rather as a deobstruent, in melancholic and other disorders. It is in this country, an entire stranger to practice; though the remarkable subtilty of its taste seems to promise some considerable medicinal power.

E Q U I S E T U M .

CAUDA equina sive equisetum Pb. Edinb. *Hippuris.* *Equisetum palustre longioribus setis* C. B. GREAT MARSH HORSETAIL:
a plant, with a thick hollow streight stalk, full of joints; and
L 1 long.

M A T E R I A M E D I C A.

long, slender, rough, stiff, jointed, rush-like leaves, standing several round every articulation in form of a star. It is perennial, and common in watery places.

THE leaves of equisetum have been accounted powerfully astringent, and hence recommended in different fluxes and hemorrhagies: the dose commonly directed is a dram of the dry leaves in powder, or two ounces of the expressed juice. They appear, indeed, from their sensible qualities, to have some virtues of this kind, but in a very low degree: in the leaves themselves, the astringency is so weak, that the taste scarcely gives any notice of it, though solution of chalybeate vitriol renders it apparent by the inky blackness it receives from them: the astringent matter is extracted both by watery and spirituous menstrua, and when concentrated by inspissating the infusions, proves still of so weak a kind, and in so little quantity, that the plant can be ranked only among the milder restringent corroborants. In this intention, an infusion of the dried herb may be used as tea.

E R I G E R U M.

ERIGERUM *sive senecio* Ph. Ed.

Senecio minor vulgaris C. B.

GROUNDSEL: a low, branched plant, with oblong narrow leaves, deeply cut into wing-like sections, joined to the stalk by broad bases: on the tops grow numerous yellow flowers, of the naked discous kind, set in large cups, and followed by small seeds winged with down. It is a common weed in dry grounds, and though annual, is found at all times of the year.

THE leaves of groundsel have an herbaceous somewhat saline taste, and no remarkable smell. They stand recommended, externally, as a vulnerary and refrigerant, internally as a mild and safe emetic. The expressed juice, or an infusion or decoction of the herb, are by several writers directed in this last intention, but neither of them appear to have any considerable effect: perhaps those, who ascribe to them an emetic power, were imposed on by giving such large doses, as to nauseate the stomach by their quantity.

E R U C A.

E R U C A.

ROCKET: a plant with smooth oblong narrow leaves deeply jagged about the edges, bearing on the tops of the stalks numerous tetrapetalous flowers, which are followed by angular pods, full of small roundish seeds flattened on one side. It is annual.

1. **ERUCA:** *eruca latifolia alba, sativa dioscoridis C. B.* Garden or Roman rocket, or rocket gentle: with leaves like those of turneps, but much smaller; and whitish flowers variegated with black streaks. It is a native of Switzerland, and cultivated among us in gardens.

2. **ERUCA SILVESTRIS:** *eruca silvestris major lutea caule aspero C. B.* Wild rocket: with leaves like those of dandelion, and yellow flowers; common on old walls, and among rubbish.

THE leaves of both the rockets have an acrid taste like that of cresses, and a rank disagreeable smell: the roots are as acrid as the leaves; the seeds much more so, approaching to the pungency of mustard. The wild sort is, in all its parts, considerably more acrid than the garden, though the faculty of Paris allows both sorts to be taken indiscriminately. They are accounted good aperients and antiscorbutics, but are now rarely made use of on account of their ill flavour: to the aphrodisiac virtues, commonly ascribed to them, they appear to have no other title than the rest of the pungent stimulating plants.

The active matter of the leaves is extracted by expression, by infusion in boiling water, and by digestion or maceration in rectified spirit; with this difference, that the infusions and tinctures retain the ill smell of the herb, which in expression is in great measure destroyed. On drying the herb itself, or inspissating the juice or the watery or spirituous tinctures, the pungency, as well as the smell, is almost totally dissipated. In distillation with water, a very small quantity of a yellowish, very pungent, and very volatile essential oil is obtained.

The pungency of the seeds is of a less volatile kind; not exhaling in exsiccation, and arising more difficultly with water in distillation: and though it appears to reside, as that of the leaves, in an essential oil, it is but partially extracted by rectified spirit. In these respects the seeds of rocket agree with those of mustard; to which they appear to be similar also, but inferior, in medicinal virtue.

E R Y N G I U M.

ERYNGIUM Ph. Lond. & Edinb. *Eryngium maritimum* C. B. *Iringus*, after *atticus*, & *inguinalis* quibusdam. ERYNGO or SEA HOLLY: a blueish, branched, umbelliferous plant, with mallow-like, thick, prickly leaves, angular or jagged about the edges: the flowers are white and set in prickly heads, under which a number of little oblong leaves stand in form of a star: the roots are slender, very long, with a few knots, brownish on the outside, and white within. It grows plentifully on some of our sandy and gravelly shores, and flowers in July.

ERYNGO roots have an agreeable sweetish taste, which on chewing them for some time is followed by a light aromatic warmth and pungency. They are accounted aperient, diuretic, and aphrodisiac: Boerhaave says they are the principal of the aperient diuretic roots, and that he constantly made them an ingredient in his prescriptions against scurvy: their virtues, however, appear to be but weak, and they are now scarcely otherwise used than in the form of a sweetmeat.

E R Y S I M U M.

ERYSIMUM Pharm. Edinb. *Erysimum vulgare* C. B. *Iris* five *erysimum dioscoridis* Lob. *Verbena femina*. HEDGE MUSTARD, BANK CRESSES: a hairy plant, with oblong narrow leaves, divided into wing-like sections, triangular at the extremity; and tough, branched stalks, bearing numerous small, yellow, tetrapetalous flowers, which are followed by short roundish pods, standing close to the stalks, full of small reddish brown seeds. It is annual, common in waste places and by way sides, and flowers in July.

THE leaves of erysimum are said to be attenuant, expectorant, and diuretic; and stand particularly recommended against chronical coughs; and hoarseness, whether humoral, or occasioned by immoderate exertion of the voice. Lobel greatly commends for this purpose a compound syrup, which, as Geoffroy observes, is not superiour to a simple mixture of the expressed juice of the herb with honey; and indeed it is not very clear whether the virtue of the honey is much improved by the erysimum. The herb has no smell, and its taste

taste (at least when moderately dried) is little other than herbaceous, with somewhat of a slight saline impregnation.

The seeds of erysimum are considerably pungent, and appear to be nearly of the same quality with those of mustard, but weaker. Their acrimony, like that of mustard-seed, is extracted totally by water, and partially by rectified spirit, and strongly impregnates water in distillation.

E U P A T O R I U M.

EUPATORIUM arabum Pharm. Paris. *Hepatorium; Eupatorium avicennæ: Eupatorium cannabinum C. B.* *Herba sanctæ kungundis, & cannabina aquatica quibusdam.*

HEMP AGRIMONY, WATER AGRIMONY, WATER HEMP: a plant with oblong, acuminate, deeply indented leaves, set three on one pedicle, and the pedicles in pairs: the flowers, which stand in umbel-like clusters, consist of purplish flosculi set in scaly cups, followed by oblong seeds winged with down. It is perennial, grows wild by the sides of rivers and ditches, and flowers in July.

THE leaves of eupatorium have a light agreeable smell, and a pungent very bitter taste. They are recommended as aperients, laxatives, and corroborants; in beginning dropsies, jaundices, intermitting fevers, and other consequences of obstructions of the viscera, succeeding frequent relapses into acute, or a long continuance of chronical diseases. They are said to be the common medicine of the turf-diggers in Holland, against the scurvies, foul ulcers, and swellings of the feet, to which they are subject. Infusions of the herb may be drank as tea, or the expressed juice taken in doses of one, two, or three ounces; in large quantity, it purges or vomits.

E U P H O R B I U M.

EUPHORBIIUM Pharm. Edinb. *EUPHORBIIUM*: a gummy resinous concrete juice, exuding from an oriental, prickly, lactescent shrub, of the same name, *euphorbia aculeata nuda multangularis: aculeis geminatis Linn. spec. plant.* The juice is brought immediately from Barbary, in drops of an irregular form; some of which are found, on being broken, to contain little thorns, twigs, flowers, and other vegetable matters; others are hollow, without any thing in the cavity.

M A T E R I A M E D I C A.

cavity: the tears are in general easy to break, of a pale yellow colour on the outside, and white within.

EUPHORBIIUM, applied lightly to the tongue, discovers a sharp biting taste: held for some time in the mouth, it proves vehemently acrimonious, inflaming and exulcerating the parts. The finer dust which flies off in pulverization, unless great care is taken to avoid it, is apt to affect the operator's head and throat in a violent manner.

It consists of about equal parts of resinous and gummy matter. The acrimony resides chiefly in the former; the spirituous tincture being excessively fiery, and when inspissated still more so; whereas the watery infusion and extract are bitterish with only a slight, though a very durable acrimony. A single drop of a strong spirituous tincture produces in the mouth a sensation of burning, which, as Cartheuser observes, is scarcely to be obtunded by mucilages or oils in less than an hour. It gives over nothing in distillation either to water or spirit.

The extreme acrimony of this drug renders it absolutely unfit for any internal use: several correctors have indeed been proposed for abating its virulence, but the best of them are not to be trusted to. It is employed only, and that but seldom, for external purposes; in stimulating unguents and plasters for paralytic limbs, carious bones, and beginning schirrous tumours. Some have ventured on a minute portion of it, mixed with other powders, as an errhine, in obstructions of the nostrils, and mucous disorders of the head; a practice by no means adviseable, as we are in no want of medicines for these purposes, equally effectual, and far more safe.

E U P H R A S I A.

EUPHRASIA *Pharm. Edinb.* *Euphrasia officinarum C. B.*
Euphrasia; Ocularia. EYEBRIGHT: a small herb, with little, oval, serrated leaves, set in pairs, without pedicles: in their bosoms, towards the tops of the stalks come forth labiated, monopetalous, whitish flowers, streaked internally with purple and yellow; followed each by a flattish capsule, full of small whitish seeds. It is annual, grows wild in uncultivated grounds, and flowers in July.

THIS plant has long been celebrated as an ophthalmic, both taken internally, and applied externally. Hildanus says, he has known
 old

aged people, who had their sight impaired, recover it again by the use of this herb; but later practitioners have not been so happy as to meet with the like success. It may indeed, in some cases, be of service as a mild corroborant; for it discovers an astringent quality to the taste, and, in a more sensible manner, by striking a black colour with solution of chalybeate vitriol. The astringent matter is extracted both by water and spirit, and when concentrated by inspissating the tinctures, is still found to be very weak.

F E L.

FEL sine bilis. GALL or BILE: a bitter animal juice, secreted from the blood in the liver, and collected in a particular receptacle. The galls of the ox, the eel, and the pike fish, have been chiefly made use of in medicine.

THIS fluid mingles uniformly with water, spirit of wine, fixt alkaline lixivia, and volatile alkaline spirits, without change of its yellow colour. The concentrated mineral acids coagulate and render it whitish: diluted acids, those at least of the vegetable and animal kingdom, change it green: the addition of alkalies to the green mixtures restores the natural yellow colour of the bile. Inspissated by heat, it dissolves almost totally in water, but is more sparingly acted upon by rectified spirit (*a*). It renders oily, unctuous, and resinous substances miscible with watery liquors; preserves milk from coagulating or turning sour, and redissolves it when already coagulated. Such at least are the properties of the gall of the ox: how far that of other animals agrees with or differs from it in these respects, is not known (*b*).

This stimulating resolvent bitter has been given, and as is said with good success, for opening obstructions of the viscera, promoting urine, the menses, and labour pains: in this last intention, the gall of the eel, which is one of the most acrid, has been chiefly recommended. Boerhaave relates, that he has cured pale ricketty children by pills made of the galls of the eel and the pike; that the medicine operated powerfully by urine; and that, by its use, the belly, before swelled, subsided surprizingly (*c*).

F E R R U M.

(*a*) Cartheuser, *Fundamenta mat. med. sect. ix. cap. i.* Edit. Paris. tom. i. p. 519.

(*b*) V. Baglivi, *Dissertationes variae, diff. iii. de experiment. circa bilem.* Opp. p. 428, seqq.

(*c*) *Praxis medica*, tom. i. p. 164.

F E R R U M.

IRON: a greyish, hard metal, between seven and eight times specifically heavier than water: distinguished from all other metallic bodies, in its metallic state, by its attracting, or being attracted by, the loadstone; but losing this attractive power on being reduced, by fire or menstrua, to a calx: not fusible without an intense white heat, and calcining, by a continuance of a weaker heat, first into blackish scales, and afterwards into a dark reddish powder: corrosible by moist air into a reddish yellow rust, and soluble in all acids, from which it precipitates all the common metallic bodies except zinc: forming with the marine acid a yellow, with the nitrous a dark red, and with the vitriolic a pale green solution; which last is changed to an inky blackness by the addition of a little galls and by most of the other vegetable astringents, and to a reddish or purple by a mixture of astringents with a minute proportion of any alkaline salt. All the solutions, by whatever acid effected, on the addition of a lixivium of alkaline salts that have been calcined and fully impregnated with animal coals(a), are changed to a deep blue, and on standing deposite the iron in form of a powder* of the same colour. By these characters, a most minute portion of iron may be discovered in liquors.

Cæruleum
berolinense,
Prussian blue.

Ores of iron, and minerals more slightly impregnated with it than those which are strictly called ores, are common in most parts of the world: the red and yellow earths and stones generally owe their colour to an admixture of this metal: see *bolus*, *ochra*, *hæmatites*, *pyrites*, *hibernicus lapis*, *vitriolum*, *aquæ chalybeatæ*. The iron, extracted from the ore by fusion in large furnaces in mixture with the fuel, and afterwards purified by ignition and forging, by which a quantity of vitreous scoria is forced out from it, is employed as an article of the materia medica in two states.

I. FERRUM *Pharm. Lond.* *Ferrum sive mars Pharm. Edinb.*
Iron, or forged iron: iron in its softer state; capable of being easily filed; acquiring little or no additional hardness on being ignited and quenched in water; appearing, when broken, of a fibrous texture; exceeding

(a) Strong alkaline solutions, fixt or volatile, may be completely saturated with the matter which tinges dissolved iron blue, by digesting them with the pigment called Prussian blue; from which they acquire a yellowish or greenish tincture, leaving the iron in form of ochre or a rusty coloured calx.

exceeding difficult of fusion, and perhaps not fusible at all by culinary fire without the contact of the fuel or other additions.

2. CHALYBS *Pharm. Lond.* Steel: iron in a hard state, so as to resist the file, or acquiring this hardness by ignition and extinction; when broken, of a fine granulated texture; much easier of fusion, somewhat more difficult of solution, and somewhat less subject to rust in the air, than soft iron. Iron, cemented in close vessels, with vegetable or animal coals, becomes steel; and steel, kept red hot for some time in an open vessel, becomes soft iron again.

THIS metal, when dissolved, discovers a strong austere corrugating taste, and contracts and hardens all the vascular and soft fibrous parts of animals. To constrict and corroborate the animal solids appears to be its primary medical operation.

In weak, lax, pale habits, and in chronical disorders proceeding from languor and debility, cachectic, hypochondriacal, and others, this metal has generally good effects; strengthening the stomach, and chylopoietic organs, and the system in general; quickening the circulation and raising the pulse; rendering the blood more florid, and as it were expanding and rarefying the juices; promoting, when they are deficient, and restraining when immoderate, the secretions that are made from the blood, as perspiration, urine, and the uterine purgations; but for the most part binding the belly, though this evacuation also, in some circumstances, it promotes.

By the same corroborating power, whereby it promotes deficient and restrains redundant discharges where the suppression or flux arise from debility and relaxation; it, contrariwise, increases fluxes and confirms obstructions when they proceed from tension, rigidity, or spasmodic strictures of the vessels. Where either the circulation is quick, or the habit plethoric; by increasing the blood's velocity, and all the plethoric symptoms, it produces heaviness, dullness, vague heats and flushings, or kindles more dangerous fevers or inflammations, or bursts some of the over-distended minute vessels.

In some constitutions, even where iron is proper and salutary, particularly in hysterical and hypochondriacal cases, and where the stomach is very weak, it is apt at first to occasion great sickness and perturbation: Sydenham observes, that these inconveniencies may be, in some measure, prevented by beginning with very small doses, and giving it for a while only at bedtime, in conjunction with a slight

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opiate.

opiate (a). In other circumstances, it is commonly taken in the morning and afternoon, and moderate exercise used to promote its action. The dose in all cases should be small, and rather repeated than enlarged: a grain or half a grain of the metal, dissolved or in a soluble state, is generally a sufficient dose. Nidorous eructations, and the alvine feces being tinged of a black colour, are marks of its taking effect.

Iron is sometimes given in substance, reduced into fine filings; which answer, in many cases, as well as its most elaborate preparations; but their action is less certain, as depending upon their meeting, in the first passages, with juices capable of dissolving them: they are likewise the most subject, when they do act, to produce troublesome eructations, probably from the property of this metal of yielding copious fetid vapours during its dissolution. The dose of the filings is from two or three grains to a scruple and more: it is probable that the whole quantity taken does not prove operative, even when the stomach abounds most with acidities; for on digesting a scruple of the filings in a quarter of a pint and more of strong vinegar, a considerable proportion remains undissolved.

Iron filings, procured from the common work-shops, may be cleansed from earthy matters or fragments of other metallic bodies, by means of a magnet. But when other metals have been previously melted with the iron, the filings of the compound cannot thus be separated from those of pure iron, the loadstone attracting both: regulus of antimony is the only exception, this metal being found, even in a small proportion, to destroy the magnetic power of the iron (b).

The filings are sometimes candied with sugar; a form, in which they are very commodiously taken, but which requires a good deal of address in the preparation, and which is made chiefly by the confectioners. Two parts of fine sugar, dissolved in water and boiled down to a candy consistence, are added, by little and little, to one part of the cleaned filings, in a brass kettle suspended over a very gentle fire; and the vessel continually agitated, that the filings may be crufted over with the sugar: to render the matter less subject to run into lumps, a little starch is previously mixed with the sugar, in the proportion of a dram to a pound*.

* Mars
saccharatus
Pharm. Edinb.

The

(a) *Dissertatio epistolaris de variol. confusnt. & affect. hysteric. Oper. p. 409.*

(b) Henckel, *Pyritologia oder kiefs-historie, das 6te capitel, p. 413. & das 10te cap't. p. 628.*

The filings, moistened with vinegar or water, and exposed to a moist air, or occasionally moistened afresh, soon change in great part into rust†, which may be separated from the uncorroded part, by grinding and washing over the finer powder with water*. The rust is given in the same dose as the crude filings, and is perhaps rather easier of solution. Hoffmann says, he has often used it, with remarkable success, in obstinate chlorotic cases accompanied with excessive headachs and other alarming symptoms; and that he usually joined with it pimpinella, arum root, and salt of tartar, with a little cinnamon and sugar.

† *Limatura marti. præparata Ph. Ed.*

* *Chalybis rubigo præparata Ph. Lond.*

A piece of steel, heated in a very fierce fire (as that of a smith's forge) to a strong white heat, and immediately applied to a roll of brimstone held over a vessel of water; is in part corroded by the sulphur, and, melting, falls down in brown coloured drops; which, picked out from the yellow strings of sulphur, and levigated into an impalpable powder*, are given in the same doses as the filings and rust, and nearly with the same effects.

* *Chalybs cum sulphure præparatus Ph. L.*

As this process is somewhat troublesome, and accompanied with offensive fumes, the shops have been generally supplied with a sulphurated preparation made more commodiously, by mixing iron filings with twice their weight of flowers of brimstone, and as much water as will make them into a paste, which on standing at rest for some hours swells up, and is then pulverised, put into a heated crucible to deflagrate, and kept constantly stirring with an iron spatula till it falls into a deep black powder†.

† *Mars sulphuratus P. E.*

This powder, urged longer in the fire, becomes red, and in this state has been usually distinguished in the shops by the name of aperient crocus*: when further reverberated with a very intense heat, it is called astringent crocus†. This notion, of opposite virtues in the two preparations, does not appear to have any just foundation; chalybeate medicines in general acting by an astringent power, though with different degrees of force. The college of Edinburgh allows colcothar of vitriol as a substitute both to the aperient and the astringent crocus; and indeed it appears to be at bottom, if duly prepared (see *vitriolum*) the very same thing with them: all the three are no other than iron, that has been corroded by the sulphureous or vitriolic acid, and afterwards, by fire, divested of greatest part of the acid, and reduced to a state of calx: the colcothar, however, as remaining after the distillation of the vitriol, commonly retains much more acid than the others, a circumstance to be attended to in the substitution of it.

Crocus martis
* *aperiens,*
† *astringens,*
Pharm. Edinb.

In all these kinds of preparations, only a small quantity of the metal is in a soluble or active state, more or less according to the proportion of acid: when iron is perfectly calcined, and no acid combined with it, it has scarcely any sensible operation.

Oil of vitriol, diluted with from equal to five or six times its measure or more of water, and assisted by a gentle heat, acts readily on iron, and emits, during its action, a strong sulphureous vapour, which on the approach of any flaming body, catches fire and explodes, so as sometimes to burst the vessel, especially if its mouth is narrow. The solution, filtered, and evaporated till a pellicle appears on the surface, yields, on standing in the cold, green crystals, the same with the common green vitriol. (See *vitriolum*). To four parts of vitriol some direct three of the iron filings*; others, that the acid may prevail a little, and the crystals be less subject to grow rusty coloured in the air; only two†.

* *Vitriolum martis, seu sal chalybis P. E.*

† *Sal martis Pharm. Lond.*

The marine acid dissolves much less than the vitriolic: on macerating half a pound of iron filings in three pounds of spirit of salt till the acid ceases to act, a notable quantity remains at last undissolved. The solution is excessively styptic, far more so than the combinations of iron with any other acid: it has likewise this peculiarity, that it mingles equally with, and when inspissated dissolves in, rectified spirit of wine; on which foundation the spirituous chalybeate tinctures depend. Some inspissate the marine solution, made in the quantity above mentioned, to the weight of a pound, and then add three pints of rectified spirit*: others combine the acid and inflammable spirits first, and digest three ounces of iron filings in a quart of the dulcified compound†. The first of these tinctures is the strongest; a few drops are a sufficient dose.

* *Tinctura martis in spiritu salis P. L.*

† *Tinctura martis Pb. E.*

On grinding iron filings, or washed colcothar of green vitriol, with twice their weight of sal ammoniac, moistening the mixture with water, gently drying it, and repeating the pulverization, humectation, and exsiccation, a few times; the iron is in a considerable degree attenuated; and on sublimation with a quick fire, so much of it arises with the salt as to communicate a deep yellow or orange colour. If the iron and sal ammoniac be only mixed together, and the sublimation performed with a slow fire, such as a glass retort will bear, the flowers prove at first pale, and require, in order to their being sufficiently tinged with the metal, to be ground with the residuum, sublimed again, and this process repeated*. These flowers have a very pungent austere taste, and are supposed to be more

* *Flores martiales Pb. Lond.*

aperient

aperient and attenuating than the other chalybeates, by virtue of the saline matter joined to the iron. They are most conveniently given in the form of a bolus, from three or four grains to twenty: they occasion pills to swell and crumble, except such as are composed of gummy resins: in a liquid form they are nauseous, except in spirituous tinctures. A tincture made by digesting four ounces of the flowers in a pint of proof spirit†, is a sufficiently elegant chalybeate, and may be given in doses of a tea spoonful.

† Tinctura
florum marti-
alium P. Lond.

The matter which remains after the sublimation of the flowers, exposed to a moist air, runs into a liquid*, in taste extremely styptic, and greatly resembling a saturated solution of iron made in spirit of salt; the sal ammoniac being in part decomposed in the process, or its marine acid and volatile alkali separated from one another.

* Lixivium
martis Ph. L.

Solutions of iron in vegetable acids are much more mild, and less ungrateful both to the palate and stomach, than such as are made in the acids of the mineral kingdom. Vinegar, juices of oranges, lemons, apples, and other fruits, acidulous wines, and tartar, have been made use of for this purpose. A vinous tincture is prepared in the shops, by macerating three ounces of iron filings, for three* or four† weeks, in two* or three† pints of Rhenish; to which some superadd a reddish colour, by means of half a dram of cochineal*; and others a slight aromatic impregnation, by three drams of cinnamon and the same quantity of mace†. The dose of the tinctures is from a tea spoonful to a common spoonful and upwards.

Vin. chalyb.
* Ph. Edinb.
† Ph. Lond.

Some direct solutions of iron made in wine, or other vegetable acids, to be inspissated to the consistence of an extract†. These kinds of preparations are commodious for some purposes, particularly for being made into pills; as being tenacious enough to give a due consistence to a considerable admixture of powdery matters. They are, most of them very apt to grow mouldy in keeping; an extract made with the juice of golden rennets is said by Neumann to be free from this inconvenience.

† Extractum
martis

A combination of iron with the acid of tartar is most commodiously obtained, by grinding the filings with equal their weight of crystals of tartar, forming the mixture into a mass with water, then pulverizing, and repeating the humectation and exsiccation alternately, till the whole falls into an impalpable powder*. This is a very elegant and useful chalybeate, the tartar rendering almost all the iron dissoluble. It is given either in a solid or liquid form, from two or three grains

* Mars sol-
bilis seu cha-
lybs tartariz.
Pharm. Edinb.

grains to ten or more. It has been usually distinguished in the shops by the name of its inventor Dr. Willis.

If the mixture of iron filings and tartar be calcined in a crucible for some time with a red heat, and such part as cannot easily be reduced into fine powder, calcined again; the tartar will be converted into a fixt alkaline salt, and by this also the iron will be corroded and rendered soluble*, as by the tartar in its acid state. There are several other methods of obtaining alkaline solutions of iron; but these kinds of combinations appear ill adapted for medicinal use, and are at present wholly neglected.

* Mars solubilis alkaliz.

Some have made trial of the blue precipitate of iron called Prussian blue, and report that it seemed to act as a diaphoretic, and in some cases as an aperient (a). Of all the known preparations of iron, this promises the least activity: the perfect calces, almost if not wholly inert, are soluble in certain acids, particularly in the marine; but the Prussian blue is not acted upon by any kind of acid menstruum.

F O E N I C U L U M.

FOENICULUM, Marathrum. FENNEL: an umbelliferous plant, with dark green leaves divided into long capillary segments: the umbels are somewhat concave, and have no leaves or cup at their origin: the seeds oval, flattened on one side, and marked with prominent striæ on the other: the root oblong, straight, white, about the thickness of the finger.

I. *FOENICULUM DULCE* *Pb. Lond. & Edinb. & C. B.* Sweet fennel: with whitish or pale greenish yellow seeds, generally crooked. It is annual, a native of the warmer climates, and cultivated in our gardens. The shops are commonly supplied, from Germany, with seeds, superiour to those of our own growth.

SWEET fennel seeds are an useful stomachic and carminative; of an agreeable aromatic smell, and a moderately warm sweetish taste. They are sometimes given in powder, from a scruple to a dram; and sometimes candied.

Water extracts the virtue of these seeds very imperfectly by infusion, but carries it off totally in evaporation: after repeated infusion, they retain part of their aromatic warmth, and the liquors are much less agreeable

(a) Geoffroy, *Memoires de l'acad. roy. des sciences de Paris, pour l'ann. 1743.*

agreeable than the seeds in substance; after boiling for some time, the seeds prove entirely insipid, and the decoction, inspissated to the consistence of an extract, is very nearly so. By distillation, they impregnate water with their flavour: a gallon receives a strong impregnation from a pound of the seeds*. A large proportion of essential oil † separates in the distillation, and floats on the surface of the aqueous fluid; in colour yellowish, in smell moderately strong and diffusive, and exactly resembling the fennel, in taste mild and sweetish like the oil of aniseeds, and like it also congealing, by a slight cold, into a white butyraceous mass.

*Aqua semin.
fœniculi
Pharm. Lond.

† Ol. essent.
sem fœnic.
dulcis Pb. L.

These seeds contain likewise a considerable quantity of a gross oil, of the expressed kind, which, when freed from the essential oil, discovers no particular smell or taste. This oil is extracted, along with the aromatic matter of the fennel, by digestion in rectified spirit, but separates and rises to the surface upon inspissating the filtered tincture. The spirit, gently distilled off, has very little of the flavour of the seeds; the oily matter retains a part both of their taste and smell; but much the greatest part remains concentrated in the extract.

2. FOENICULUM VULGARE *Pharm. Edinb.* *Fœniculum vulgare germanicum C. B.* Common fennel or finckle: with smaller, dark coloured almost blackish seeds. It is perennial, a native of some of the southern parts of Europe, and cultivated in our gardens.

THE seeds of this species are warmer and more pungent, but less sweet, and of a less grateful flavour, than those of the preceding; and the same difference obtains in the distilled waters, distilled oils, and the spirituous extracts of the two kinds. The spirituous tinctures are somewhat different also, as the seeds themselves, in colour: those of the sweet fennel seeds being yellowish, of the common greenish.

The leaves of common fennel have the same kind of flavour with the seeds, and are in smell stronger, though in taste weaker and less agreeable. They impregnate water, by distillation, with a sufficiently grateful flavour*, and yield a considerable portion of essential oil. An extract made from them by rectified spirit is likewise no inelegant aromatic: the colour of the spirituous tincture is a deep green.

*Aq fœniculi
Pharm. Edinb.

The roots, taken up early in the spring, have a pleasant sweetish taste, with a slight aromatic warmth; but nothing of the peculiar strong flavour of the leaves and seeds. They are ranked among the aperient roots, and supposed by some to be equivalent in virtue to the

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the celebrated ginseng of the Chinese, from which however they differ considerably in their sensible qualities (see *ginseng*). They give out their virtue, by infusion or slight coction to water, and by moderate digestion to rectified spirit: to the latter they communicate a pale amber colour, to the former a wheyish appearance. The aqueous infusions are in taste considerably the strongest, but on being inspissated, they yield an extract of very little taste and in very small quantity; greatest part of the sweetish matter as well as the aromatic being dissipated in the evaporation. The spirituous extract is in larger quantity, about one twelfth the weight of the root, and of a moderately strong taste; agreeable, unctuous, sweetish, lightly aromatic, with some small admixture of bitterishness.

F O E N U M G R Æ C U M.

FOENUM GRÆCUM Pharm. Lond. & Edinb. Fœnum græcum sativum C.B. FENUGREEK: a plant with oblong or roundish leaves, set three on a pedicle; and whitish papilionaceous flowers, which are followed by long crooked flattish pods, containing yellowish rhomboidal seeds furrowed from angle to angle. It is sown annually in the southern parts of Europe, from whence the seeds are brought to us.

FENUGREEK seeds have a strong disagreeable smell, and an unctuous farinaceous taste accompanied with a slight bitterishness. An ounce renders a pint of water thick and slimy: the decoction, inspissated, yields an unctuous mucilaginous bitterish extract, retaining a considerable share of the ill flavour of the seeds, and amounting to about three fourths their quantity. To rectified spirit they give out the whole of their distinguishing smell and taste; and afterwards to water a strong flavourless mucilage.

The principal use of these seeds is in cataplasms and fomentations, for softening, maturing, and discussing tumours; and in emollient and carminative glysters.

F O R M I C A.

F O R M I C A.

FORMICA Pharm. Paris. The ANT or PISMIRE: a small, oblong, reddish or blackish insect, furnished with a sting: the male has four wings, naked or uncovered; the female none.

This insect contains an acid juice; which it sheds on being irritated; with which, by agitation or boiling, it impregnates both water and rectified spirit; less volatile than pure spirit, so as to be concentrable from the spirituous infusion by drawing off a part of the menstruum; not quite so volatile as water, a considerable part of the water arising first with only a slight acidulous impregnation, and the strong acid coming over with the remainder; differing in its property from all the other known acids, and approaching nearest to those produced from vegetables by fermentation. The ant contains likewise a gross oil, separable by boiling in water, rising to the surface of the aqueous fluid, and similar in its general qualities to the expressed oils of vegetables; as also a subtile oil, which comes over in distillation both with rectified spirit and with water, analogous to the vegetable essential oils, but wanting their pungent taste (*a*).

The medical qualities of this insect, and its remarkable productions, are not certainly known. It has been generally supposed, that the ants in substance, and infusions and distilled waters of them, have an aphrodisiac virtue; a virtue for which the above analysis does not appear to afford much foundation. The insects in their chrysalis state, commonly called ants eggs, (which discover no marks of acidity) are said to be strongly diuretic and carminative: a decoction of a spoonful of them in buttermilk has been directed by some to be taken every morning in dropries. The acid is recommended by Hoffmann as one of the best menstrua of iron for medicinal uses.

F R A N G U L A.

FRANGULA sive alnus nigra Pharm. Edinb. Alnus nigra baccifera C.B. BLACK ALDER: a small tree, or shrub, with slender flexible branches, and broad roundish leaves; bearing black berries, which contain a blue juice, with two seeds in each. It is common in moist woods in several parts of England.

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(*a*) V. Neumann, *Chemical works*, p. 497. Marggraf, *Memoires de l'acad. roy. de scienc. de Berlin*, pour l'ann. 1749.

THE internal yellow bark of this shrub is a strong cathartic, and in this intention is sometimes made use of by the common people in dropsies and other disorders: it generally operates with great violence, occasioning nausea, sickness, gripes, and often vomiting. An infusion or decoction of it in water, inspissated to the consistence of an extract, acts with greater mildness than the bark itself. It gives a deep yellow tincture both to water and spirit.

The berries also are strongly purgative; but are scarcely ever made use of, at least under their own name. In our markets, they are said to be sometimes substituted to those of buckthorn; which last may be distinguished by their green juice, and by their containing generally four seeds.

F R A X I N E L L A.

FRAXINELLA sive *dictamnus albus* Ph. Edinb. *Dictamnus albus vulgo sive fraxinella* C. B. WHITE OR BASTARD DITTANY:

a plant with oval acuminate leaves, like those of the ash tree but smaller and more juicy, set in pairs on a middle rib, which is terminated by an odd one: on the tops of the stalks stand elegant long spikes of irregular white or purplish flowers, followed each by five pods full of shining black seeds. It is perennial, and grows wild in the mountainous parts of France, Italy, and Germany; from whence the white cortical part of the root is sometimes brought to us, dried, and in the form of quills.

THE herb has a strong smell, of an unpleasant resinous or bituminous kind: on the tops of the stalks, and the flower cups, the microscope discovers innumerable little vesicles, filled with an essential oil, the source of its strong scent. It is said, that on the approach of a candle, in very hot dry weather, its effluvia take fire.

The root, when fresh, has a moderately strong, not disagreeable, smell; as met with in the shops, it has scarcely any. To the taste it discovers a pretty strong, and very durable, bitterness; which is taken up both by watery and spirituous menstrua, and on inspissating the filtered tinctures, remains entire in the extracts: the aqueous extract is in much larger quantity than the spirituous, and proportionably weaker in taste. This root stands recommended as a stomachic, anthelmintic, alexipharmac, and as an aperient in uterine obstructions; but is at present very rarely made use of.

F R A X I N U S.

F R A X I N U S.

FRAXINUS Pharm. Edinb. Fraxinus excelsior C. B. Bumelia. Ash: a tall tree common in woods and hedges; with a whitish bark, and oblong reddish brown seeds in shape somewhat resembling a bird's tongue, whence their names *lingua avis*, *ornithoglossum*, *passerina*, *anserina*.

THE bark of the ash tree, when fresh, has a moderately strong, bitterish, unpleasant taste, which in drying grows weaker. It has been given in substance from half a dram to a dram, and an extract made from it by water in smaller doses, as a resolvent and diuretic (*a*), and in intermitting fevers, in which it is said to have often proved successful, especially when assisted by fixt alkaline salts. Vander Mye reports, that at the siege of Breda, in defect of guaiacum, a decoction of this bark was made trial of in its place, and was found to be a potent sudorific: that in consequence of this discovery, it was given in pestilential cases, but that the decoction being disgustful by its quantity, a distilled water was substituted, which in doses of two spoonfuls excited sweat freely, and was salutary to many (*b*). It must be observed, that this water was distilled in a sand heat, and is described as being ungrateful and smoky: from whence it appears to have been, not what is commonly called a distilled water, but an acid empyreumatic liquor, such as is forced out by fire from all vegetables: whatever might have been its virtues in malignant diseases, they apparently depended, not upon its being a preparation of ash bark, but on its being an acid.

Among us, this bark is regarded only on account of a phenomenon, of more curiosity than use, observed in its watery infusion, similar to that of the infusion of the *lignum nephriticum*. The liquor (if only slightly impregnated with the bark) on being held against the light, appears of a pale yellowish colour; looked down upon, or placed betwixt the eye and an opaque object, blue: the addition of acids destroys the blueness, and alkalies recover it again. The spirituous tincture exhibits the same variability of colour; with this difference, that against the light, it appears of a much deeper gold or orange yellow.

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(*a*) Duchesne, (*Quercetanus*) *Pharm. dogmat. restitut. cap. 26.*

(*b*) Fred. Vander Mye, *de morbis Bredanis*, p. 26.

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The seeds of the ash tree have been given, to the quantity of a dram, as diuretics, aphrodisiacs, and for reducing corpulent habits. They have a considerable taste, of a bitterish, aromatic, not very agreeable kind.

F R U C T U S H O R Æ I.

FRUCTUS HORÆI Medicorum. *Fraga, cerasa, ribesia, mora, fructus rubi idæi, &c.* SUMMER FRUITS: strawberries, cherries, currants, mulberries, raspberries, &c.

THESE mild dulco-acid fruits are sometimes used medicinally, as refrigerants, antiseptics, relaxants, attenuants and aperients. Boerhaave looks upon their continued use as one of the principal remedies in cases of obstruction and viscidities, and in putrid disorders (*a*); and Hoffmann gives instances of some obstinate diseases being cured by them (*b*): they apparently promote the alvine and urinary excretions; and in some fevers, where watery liquors run off almost unchanged, these fruits or their juices render the urine coloured. As dietetic articles, they afford little nutriment, and are liable to produce flatulencies: to persons of a bilious temperament and rigid fibres, and where the habit is disposed, naturally or from extrinsic causes, to an inflammatory or putrescent state, their moderate, and even plentiful use, is salubrious: by those of a cold inactive disposition, where the vessels are lax, the circulation languid, and the digestion weak, they should be taken very sparingly.

The juices, extracted from fruits by expression, contain their medicinal parts, freed from the grosser indigestible matter. On standing, they ferment, and change to a vinous or acetous state: by a proper addition of sugar, and by boiling, their fermentative power is suppressed, and their medicinal qualities preserved. The inspissated juices are found to be less flatulent, and less disposed, when taken freely, to produce gripes and fluxes, than an equivalent quantity of the fruits in substance or of the juices unboiled.

These juices, purified from their feculencies by settling and straining, are made into syrups by a less proportion of sugar than water, or the common watery infusions require. For a quart of the depurated juices of mulberries, raspberries, &c. fifty ounces * at most are sufficient; whereas the generality of vegetable infusions require

* Syrup. mororum & fructus rubi idæi Pharm. Lond.

(a) *Elementa chemiæ, process. iii. Praxis medica, passim.*

(b) *M.d. rational. de affectione phthisica, obs. i. Oper. tom. iii. p. 295.*

require fifty eight. The more juicy berries give out their juice by heat without expreffion: if equal parts of picked currants and fugar be fet over a gentle fire, the fugar diffolves in the juice of the fruit, and by boiling for a little time, an elegant jelly is formed, which may be freed from the fkins by ftraining†. Thefe preparations may be occasionally diffolved in water, and ufed as diluents, refolvents, &c. in acute and other difeafes.

† Gelatina
ribesiorum
Pharm. Edinb.

The kernels of the ftones of fruits, as of cherries, plums, &c. are of the fame general nature with almonds. Thofe which have any bitterifhnefs or particular flavour, receive thefe qualities from a fubtile principle; which is extracted by maceration in vinous fpirits; which riles in diffillation with water; and which, when thus feparated from the oily and farinaceous matter of the kernel, and combined with only a fmall quantity of the menftruum, appears to be, like the flavouring matter of bitter almonds, poifonous. Some phyficians of Worcefter have found, that a diffilled water very ftrongly impregnated with black cherry kernels (no more than two pints being diffilled from fourteen pounds of the ftones bruifed) proves poifonous to brutes; and the committee of the London college, appointed to reform their pharmacopœia, repeated the experiment with the fame event.

F R U M E N T U M.

FRUMENTA, farinacea, cerealia, Medicorum. Triticum ejusque anrylum & furfur; oryza; avena; hordeum, &c. BREAD-CORN or GRAIN: wheat, with the ftarch made from it by maceration in water, and its bran; rice; oats; barley, &c.

OF the medicinal, or rather alimentary qualities, of thefe farinaceous feeds, little more is known, than what is too generally known to require being mentioned. They are lefs nutritious than the dietetic articles taken from the animal kingdom, but the nutriment they afford is milder and more benign: it is faid that gouty and other chronical diforders, which are palliated or relieved by uſing milk for the only aliment, receive like relief from farinaceous aliments, provided the ftomach is fufficient for their digeſtion(a). In all cafes, they are a neceſſary addition to animal food; and are, perhaps, the beſt correctors of the putrid diſpoſition which animal ſubſtances of themſelves would produce. The alimentary animal ſubſtances, which

(a) V. Malouin, *Chemie medicinale*, part. iii. chap. 2 tom. i. p. 234.

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which of themselves run into high putrefaction, undergo, when mixed with the *farinacea*, a resolution of another kind; the mixture tending, not to a putrid, but to an acid state (*a*). These mixtures appear to be sooner resolvable than either the animal or vegetable matter separately: probably they are easier also of digestion in the stomach.

Among the common kinds of grain, rice is accounted the mildest and most nutritious, and supposed to be particularly serviceable in dysenteries and diarrhœas. It is less viscous, or of less tenacity when boiled with water, than wheat.

Wheat, whether in the form of flower or of starch is perhaps the most glutinous of all the *farinacea*. The viscous substance which the flower forms with milk, is often a salubrious aliment in fluxes and catarrhs. The starch is used medicinally for the same intentions, in powders, mixtures, and other forms: a dram of starch, with three ounces of any agreeable simple water, and a little sugar, compose an elegant gelly, of which a spoonful may be taken every hour or two. These gelatinous mixtures are likewise an useful injection in some diarrhœas, particularly where the lower intestines have their natural mucus abraded by the flux, or are constantly irritated by the acrimony of the matter. Oats are less viscous, and less nutrimental, than the two preceding.

Barley is less nutrimental, less glutinous, more cooling, more easily resolvable by fermentation, and probably in the stomach also, than either of the foregoing. Among the ancients, decoctions of it were the principal medicine, as well as aliment, in acute diseases; and from the common use of shelled barley, *ptisana*, in that form, other preparations of this kind, though made with different ingredients, have been often distinguished by the same name. The barley is freed from the shell in mills, and in this state called French or Scotch barley. A sort of shelled barley has been commonly brought from Holland in small round grains, called, from their pearly whiteness, *hordeum perlatum* or pearl barley.

Decoctions of the *farinacea* in water, containing only their lighter and more agreeable parts, are very useful diluents in acute and other inflammatory diseases: however trivial preparations of this kind may appear to be, they are often, in these cases, medicines of primary importance. The most elegant and grateful beverage is prepared

(*a*) See Dr. Pringle's experiments on this subject, in the appendix to his *observations on the diseases of the army*.

pared from pearl barley, by washing, for example, two ounces of it, from the mealy matter that adheres, with cold water; then boiling it with about half a pint of fresh water, which will acquire some tinge and is to be thrown away; and afterwards putting the barley into two quarts of boiling water, and continuing the coction till one half is wasted*.

*Aq. hordeata
Pharm. Lond.

An infusion or decoction of well toasted bread is likewise a very agreeable diluent, of the restringent kind. In the cholera morbus, or bilious vomitings and purgings, it is often retained by the stomach when other liquors and medicines are rejected; and in several instances, by being drank plentifully, has effected a cure (a).

Bran, consisting of the husks or shells of the grain, with a portion of its farinaceous matter, is supposed to have a laxative and detergent quality. Decoctions of it sweetened with sugar, are used by the common people, and sometimes with good success, against coughs.

F U L I G O.

FULIGO LIGNI Pharm. Lond. & Edinb. WOOD SOOT: the smoke of burning wood condensed into a shining black concrete.

WOOD soot has a disagreeable smell, and a pungent, bitter, nauseous taste: the more resinous the wood, the bitterer is the soot. On a chemical analysis, it is resolved into a volatile alkaline salt, an empyreumatic oil, a fixt alkali, and an insipid earth. The volatile salt and spirit are sometimes kept, in the shops, and have in some cases been preferred to those of the animal kingdom; see *sal alkalinus volatilis*.

Wood soot is directed in hysteric cases, and in different nervous disorders, as an antispasmodic and corroborant. It is used chiefly in the form of spirituous tincture, in conjunction, commonly, with asafetida or other materials of similar intention: the officinal tincture is drawn from two ounces of soot and one of asafetida, with a quart of proof spirit†. The virtues of the soot are extracted, almost equally, by proof spirit, rectified spirit, and water; each of which, if the soot is of a good kind, dissolves about one fourth of it. The extracts, obtained by inspissating the filtered solutions, are excessively bitter: the spirituous extract retains most perfectly the peculiar flavour of the soot.

† Tinctura
fuliginis
Ph. L. & Ed.

F U M A R I A.

(†) Dr. Charles Ayton Douglas, *Edinburgh medical essays*, vol. V. art. 65.

F U M A R I A.

FUMARIA Ph. Edinb. *Fumaria officinarum* & *discoridis* C. B. *Fumus terræ quibusdam.* FUMITORY: a plant with blueish green finely divided leaves; producing, towards the tops of the stalks, opposite to the leaves, spikes of irregular purplish flowers followed each by a single seed. It is an annual weed in shady cultivated grounds, and flowers in May and June.

THE leaves of fumitory are very juicy; of a bitter, somewhat saline taste; and no remarkable smell. The expressed juice, and a decoction of the leaves in water, inspissated to the consistence of extracts, are very bitter, and considerably saline: on standing for some time, they threw up to the surface copious saline efflorescences, in figure somewhat resembling the crystals of nitre, to the taste bitterish and slightly pungent. A tincture of the dry leaves in rectified spirit yields, on inspissation, an extract, less in quantity, and bitterer in taste, than either the watery extract or inspissated juice: no saline matter separated from this extract, nor did it appear to the taste any other than simply bitter.

This herb is recommended as an aperient and resolvent, in obstructions of the viscera, in scorbutic and cutaneous maladies: Hoffmann has a high opinion of it as a purifier of the blood, and gives it the preference to all the other herbs made use of in that intention (*a*). It appears from the above analysis to be a plant of no inconsiderable virtue, though at present a stranger to practice: its sensible operation is by loosening the belly and promoting urine.

G A L A N G A.

GALANGA MINOR Pharm. Edinburg. & C. B. *Wanbon* *Kæmpfer amœnitat. exot.* GALANGAL or LESSER GALANGAL: the root of a grassy-leaved plant; brought from China and the East Indies, in pieces about an inch long and scarce half so thick, full of joints with several circular rings, of a reddish brown colour on the outside and a pale reddish within. We sometimes meet with a larger root of the same kind, an inch or more in thickness, under the name of

(*a*) *De præstantia remedium domesticorum*, §. 19.

of *galanga major*: this is to be rejected, as being much weaker, yet more disagreeable, than the small.

GALANGAL root has an aromatic smell, not very grateful; and an unpleasant, bitterish, hot, biting taste. It was formerly in common use as a warm stomachic bitter, and generally made an ingredient in bitter infusions; but is now almost wholly laid aside, on account of its unpleasant flavour. Nor indeed does bitterness appear to be its proper medical character; the heat and pungency greatly prevailing. An extract made from it with rectified spirit is excessively fiery, setting the mouth as it were in a flame: the watery extract is likewise very hot and pungent, though much less so than the spirituous, its quantity being about three times as large: neither one nor the other extract discovers any great bitterness. In distillation with water, there arises an essential oil, to the quantity of about a dram from sixteen ounces, of little smell, and of no great pungency. The pungent matter of the galangal appears from these experiments to be of the same nature with that of pepper; residing, not in the volatile oil, but in a more fixed matter.

G A L B A N U M.

GALBANUM Pharm. Lond. & Edinb. GALBANUM: the concrete gummy-resinous juice of an evergreen umbelliferous plant growing in Ethiopia, *ferula africana galbanifera foliis & facie ligustici Herman. par. bat.* It is brought to us in pale coloured, semitransparent, soft, tenacious masses; the better sorts of which, on being opened, appear composed of clear whitish tears, often intermixed with little stalks or seeds of the plant.

THIS juice has a strong unpleasant smell, and a bitterish, warm, somewhat biting taste. In medical virtue, as in its sensible qualities, it is similar to ammoniacum; but is generally accounted less efficacious in asthmatic disorders, and more so, on account of its stronger flavour, in hysteric cases.

Galbanum, like the other gummy resins, unites with water, by trituration, into a milky liquor; but does not perfectly dissolve, as some have reported, in water, vinegar, or wine. Rectified spirit takes up much more than either of those menstrua, but not the whole: the tincture is of a bright golden colour. A mixture of two
O o parts

*Galbanum
purificatum
Pharm. Lond.

parts of rectified spirit and one of water dissolves all but the impurities, which are commonly in considerable quantity. It is best purified by including it in a bladder, and keeping it in boiling water till it melts or becomes soft enough to be strained, by pressure, through a hempen cloth*: if this process be skilfully managed, the galbanum loses but little of the essential oil, in which great part of its virtue consists, and which appears to be carried off in evaporation both by water and spirit. In distillation with water, the oil separates and rises to the surface, in colour yellowish, in quantity about one twentieth of the weight of the galbanum: in this respect it differs from ammoniacum, which has not been observed to yield any essential oil. From that and the other common gummy resins it differs also in regard to the appearance of the empyreumatic oil obtained by distillation in a retort without addition; the empyreumatic oil of galbanum being, as Neumann observes, of a blue colour, which changes in the air to a purple.

G A L L Æ.

GALLÆ Ph. Lond. & Edinb. GALLS: hard roundish excrescences, found in the warmer countries, on the oak tree; produced from the puncture of an insect, and affording a lodgment for its young till they are capable of eating a passage through: those galls, which have no hole, are found to have the dead insect remaining in them. The best galls come from Aleppo, and are distinguished from the other sorts by their being less round, and having several tubercles on the surface.

THIS excrescence is a strong astringent; one of the strongest of those of the vegetable kingdom. It has no smell, or particular flavour; simple astringency being its medical character. The cortical hard part of the gall appears considerably stronger than the interior more brittle matter. The virtue of both is taken up by watery and by spirituous menstrua: on inspissating the tinctures, both the water and spirit rise unflavoured, leaving extracts of intense stypticity: the spirituous extract is in smaller quantity than the watery, and somewhat stronger in taste.

G A L L I U M.

GALLIUM.

GALLIUM Pharm. Edinb. *Gallium luteum* C. B. LADIES BEDSTRAW, CHEESE-RENNET, PETTY MUGUET: a plant with square stalks, and long narrow soft leaves, standing generally eight at a joint in form of a star: on the tops, and on pedicles issuing from among the leaves, grow thick clusters of small yellow monopetalous flowers, divided, each, into four segments, and followed by two seeds. It is perennial, common in dry waste grounds, and flowers in June and July.

THE flowers of this plant have a moderately strong, not disagreeable smell; the leaves, little or none. They both discover to the taste a sensible acidity; which they manifest also by changing the juices of blue flowers to a red, and by coagulating boiling milk: they are said to be, in some places, commonly made use of in this last intention (*a*), whence the name of the plant, cheese-rennet. Their acid matter appears to be (if Borrichius's experiment is to be depended on) of a more subtile kind than that of sorrel, and than the other native vegetable acids that have been examined; the flowery tops, committed to distillation as soon as gathered, giving over a pretty strong acid liquor, in a moderate heat, wherein sorrel yielded only an insipid phlegm (*b*). The restraining and refrigerating virtues, ascribed to this plant, appear from these experiments to have some foundation.

GAMBOGIA.

GAMBOGIA Ph. Lond. *Gambogia seu gutta gamba* Ph. Ed. *Gummi gutta, gamandra, gamma, jemu, &c.* GAMBOGE: the concrete gummy-resinous juice of certain trees growing in Cambogia or Cambodia in the East Indies: brought over in large cakes or rolls, externally of a brownish yellow, internally of a deep reddish yellow or orange colour, changing to a pale bright yellow on being moistened.

O o 2

THIS

(*a*) Gerard, *Herbal*, enlarged and amended by Johnson, p. 1128.

(*b*) *Acta medica & philosophica Hafniensia*, vol. i. obs. 69.

THIS juice has no smell, and when first chewed makes but little impression on the organs of taste: kept in the mouth for some time, it discovers a considerable acrimony. Rectified spirit of wine, poured upon it, acquires immediately a deep gold colour, and dissolves about five parts out of six. Water, assisted by heat, takes up nearly as much; but the solution is turbid, and deposits, on cooling, a considerable quantity of resinous matter. Water impregnated with fixt alkaline salt, totally dissolves it into a transparent blood red liquor, which passes through a filter without any separation of its parts, and deposits no sediment on standing. It is wholly taken up likewise, and in considerable quantity, by vinous spirits impregnated with volatile alkalies, or the dulcified spirit of sal ammoniac: this solution mingles uniformly both with water and rectified spirit, without precipitation or turbidness.

Gamboge is a strong and quick cathartic; producing copious evacuations, and usually finishing its operation soon. In such hydroptic cases as require the brisker cathartics, and in other disorders accompanied with a redundance of ferous humours, it is an useful and safe hydragogue: in hot, dry, bilious constitutions, it is never to be ventured on: in all cases, it is liable, where the patient is unaccustomed to it, to vomit as well as purge. The dose is from three or four grains to twelve, or at most fifteen.

This medicine is most disposed to act upwards, when given in the solid form of a bolus or pill: by joining to it mercurius dulcis, its emetic power is generally restrained. It is principally made use of in conjunction with that mercurial preparation and with other purgative materials: the college of Edinburgh directs equal parts of gamboge, mercurius dulcis, aloes, and extract of black hellebore, to be mixed with one sixteenth their weight of essential oil of juniper berries, and the whole made into a mass with syrup of buckthorn*. Solutions of gamboge in alkalized water, and in dulcified alkaline spirits, act only by stool and urine, and with much greater mildness than the juice in substance. The watery tincture is still milder, but the spirituous tincture operates with extreme irritation both upwards and downwards.

*Pil. de gambogia Ph. Ed.

G E N I S T A .

*GENISTA Pharm. Edinb.**Genista angulosa* & *scoparia* C. B.

BROOM: a shrubby plant; with numerous, slender, angular, tough twigs; small, somewhat oval leaves, set three on one pedicle; and deep yellow papilionaceous flowers, which are followed by broad pods, containing hard brownish flat seeds. It is common on heaths and uncultivated sandy grounds, and flowers in May.

THE leaves and stalks of broom have a nauseous bitter taste; which they give out, by infusion, both to water and rectified spirit; and which, on gently inspissating the filtered liquors, remains concentrated in the extracts: the watery tincture is of a brownish, the spirituous of a dark green colour. They are accounted laxative, aperient, and diuretic; and in this intention have been often used by the common people in dropsies and other serous disorders. Dr. Mead relates a case of an hydropic person, who, after the paracentesis had been thrice performed, and sundry purgatives and diuretics had been tried without relief, was perfectly cured, by taking, every morning and evening, half a pint of a decoction of green broom tops with a spoonful of whole mustard seed: by this medicine, the thirst was abated, the belly loosened, and the urinary discharge increased to the quantity of at least five or six pints a day (*a*).

Infusions of the ashes of the plant in acidulous wines have likewise been employed in the same intention, and often with good success. The virtue of this medicine does not depend, as some have supposed, on any of the peculiar qualities of the broom remaining in the ashes; but on the alkaline salt and earth (which are the same in the ashes of broom as in those of other vegetables) combined, wholly or in part, with the vinous acid. Even the pure earthy part of vegetable ashes, dissolved in vegetable acids, proves notably purgative and diuretic.

Of the seeds and flowers, directed as officinals by the college of Edinburgh, the medicinal qualities are not well known. It is said that the seeds, in doses of a dram and a half in substance, and five or six drams in decoction or infusion, prove purgative or emetic. Some report that the flowers also operate in the same manner, but Lobel assures us, from his own observation, that they have been taken in quantity without producing any such effect.

G E N T I A N A .

(*a*) *Monita* & *præcepta medica*, p. 138.

G E N T I A N A.

GENTIANA Pb. Lond. & Edinb.*Gentiana major lutea* C. B.

GENTIAN, FELWORT, BALDMONY: a plant with an unbranched jointed stalk, and oblong acuminate ribbed leaves set in pairs at the joints upon broad pedicles: the flowers, which stand in clusters round the stalk in the bosoms of the upper leaves, are of a pale yellow colour, somewhat bell-shaped, deeply cut into five segments, followed by oblong capsules full of small seeds: the root is moderately long, slender, brownish on the outside, of a reddish yellow or gold colour within. It is perennial, a native of the mountainous parts of Germany, &c. from whence the shops are generally supplied with the dried roots.

Among the gentian brought to London some years ago, a root of a different kind was mixed: the use of which occasioned violent disorders, and in some instances, as is said, proved fatal. This root is externally of a paler colour than gentian, and its longitudinal wrinkles finer and closer: on cutting the two roots, the difference is more remarkable, the poisonous root being white, without any degree of the yellow tincture which is deep in gentian; nor is its taste bitter, like that of gentian, but mucilaginous.

GENTIAN root is a strong flavourless bitter; in taste less exceptionable than most of the other common strong bitters, and hence among us most generally made use of. The flavour and aromatic warmth, wanting to render it grateful, and acceptable to the stomach, are supplied by additions. An ounce of the gentian root, with the same quantity of fresh lemon peel, and a dram and a half of dried orange peel, infused for an hour or two in three quarters of a pint of boiling water * make a very elegant bitter. The lemon peel is an excellent addition in the watery infusions, but the perishableness of its flavour excludes it from spirituous tinctures designed for keeping: the bitter tinctures are commonly prepared, by macerating the above quantity of the root, for some days, in a pint of proof spirit, with four drams of dried orange peel and two of lesser cardamom seeds †, or with four of Curassoa apples and two of Virginian snakeroot ‡. Wines and malt liquors are likewise impregnated with the same or similar materials, in different proportions: an ounce of the gentian root, the same quantity of fresh lemon peel, and two drams of long pepper, communicate by maceration without heat, a grateful warmth and

* Infusum
amarum P. L.

† Tinctura
amara Pb. L.

‡ Elixir sto-
machic. P. E.

bitterness to a quart of mountain*. The virtue of the root is extracted by all these menstrua, as also by rectified spirit; not totally, however, by any, in the above proportions; and not in so great a degree by water as by spirit. The tincture in rectified spirit is of an orange yellow colour: inspissated, it yields an intensely bitter extract, the spirit rising unflavoured. The watery infusions are of a dark brownish red; and leave, on being inspissated, an extract†, in larger quantity, and less bitter, than the other. These extracts are made into pills, by themselves, or with aromatic additions.

*Vinum amarum Ph. Lond.

† Extractum gentianæ Ph. L. & E.

The German ephemerides mention a root brought from America by the Portuguese, under the name of *Indian gentian*; of a pale yellowish colour, jointed, marked with various knots and circles like ipecacoanha; of a penetrating aromatic bitterness, not ungrateful, though far more intense than the bitterest of the officinal bitter drugs. This root is greatly commended in obstinate intermittents, and many other disorders: a scruple is said to do more than repeated half drams of bark (a).

G E R A N I U M.

GERANIUM Ph. Paris. CRANESBILL: a plant, so called from the remarkable long beak of its seedvessel, which consists of five capsules opening inwards and containing each a single seed: the flowers are pentapetalous.

1. *GERANIUM SANGUINARIUM seu hæmatodes.* *Geranium sanguineum maximo flore* C. B. Bloody cranesbill: with solitary flowers, on their first appearance red but soon changing to a blueish; the leaves roundish, but divided almost to the pedicle into five segments, which are often subdivided at the extremities into three.

2. *GERANIUM COLUMBINUM sive pes columbinus.* *Geranium folio malvæ rotundo* C. B. Doves-foot: with purple flowers standing two on one pedicle; and mallow-shaped leaves on long footstalks.

3. *GERANIUM BATRACHIOIDES sive batrachium.* *Geranium batrachioides gratia dei germanorum* C. B. Crowfoot cranes-bill: with two blue (sometimes white) flowers on one pedicle; and large wrinkled leaves, divided into five or seven segments, which are again deeply cut on the edges.

4. HERBA

(a) Michael Schendo, *Acta physico-medica acad. nat. curios. vol. i. anno 1727. Append. p. 112.*

4. HERBA ROBERTI *sive gratia dei.* *Geranium robertianum* C. B. Herb-robert: with two reddish or purplish flowers on one pedicle; the leaves divided quite to the footstalk into three segments, and these again deeply cut.

5. GERANIUM MOSCHATUM *sive acus moschata.* *Geranium cicutæ folio moschatum* C. B. Musk cranes-bill: with a number of red flowers on one pedicle; and oval indented leaves, set in pairs along a middle rib, which is terminated by an odd one.

All these plants are found wild in different parts of this kingdom: the four first are common, the last rare. They flower in May, June, and July; the second and fourth earliest, the first latest. The second and fifth are annual, the others perennial.

THE above geraniums, formerly ranked among the officinals, and many other plants of the same genus, indigenous or commonly cultivated; discover to the taste a considerable astringency, and strike an inky blackness with solution of chalybeate vitriol: some of them are, apparently, of the stronger kind of vegetable styptics. The three first sorts have no great smell; the fourth, an unpleasant one, akin to that of the dead nettle, but stronger; the fifth has an agreeable musky scent, which is destroyed by bruising the plant. The odoriferous principle is separated by distillation with water, and gives a moderate impregnation to the distilled fluid; but no essential oil was obtained on submitting to the operation moderate quantities either of the fetid or the musky sorts. The styptic matter is extracted equally by water and rectified spirit; and on evaporating the filtered liquors, remains entire in the inspissated extracts: the watery infusions are yellowish or brownish, the spirituous tinctures of a deep green colour. The watery extracts (those at least of the second and fourth kinds) on standing for some weeks, throw off to the surface a considerable quantity of small saline crystals, in shape somewhat like those of nitre, in taste austere and bitterish. From these experiments it may be presumed, that the geraniums have no ill claim to the vulnerary, that is, astringent virtues, commonly ascribed to them, in alvine fluxes, hemorrhagies, defluxions on the breast, &c.

G I N S E N G.

GINSENG.

GINSENG Pharm. Edinb. *Aureliana canadensis, sinensis* gins-eng, iroquæis garent-oguen, Lafiteau memoir. sur le ginsf. **GINSENG**: the root of a small plant; growing in China, Tartary, and likewise in some parts of North America, particularly Canada and Pennsylvania, from whence considerable quantities have lately been brought over. It is two or three inches in length; taper; about the thickness of the little finger, or less, in the thickest part; often forked at bottom; elegantly striated with circular wrinkles; of a brownish or yellowish colour on the outside, and whitish or of a pale yellowish within: on the top are commonly one or more little knots or tubercles, which are the remains of the stalks of preceding years, and from the number of which, the age of the root is accordingly judged of.

On comparing the American roots with some specimens received from Nankin, no material difference could be observed between them, either in their external appearance or in their quality; except that the Chinese were in general somewhat paler coloured on the outside, and internally rather whiter. It is said that in China, the roots, taken up in spring or autumn and carefully cleaned from the fibres, are washed and soaked for a time in a decoction of rice or millet seed, and afterwards exposed to the steam of the liquor; that by this means they acquire a greater firmness and clearness than they have in their natural state; that nevertheless the American roots were received and purchased as true ginseng in China itself, though without the supposed advantage of the Chinese preparation.

Ninzin or *Nindsin* has been commonly supposed a name synonymous to ginseng. It appears, from later observations, that the ninzin is the root of a different plant^(a), which is cured in the same manner, and very nearly resembles the ginseng, but is supposed to be of weaker virtue. This also is a native of America as well as China. It is called by Kæmpfer, *fissarum montanum coræense, radice non tuberosa*; by Linnæus, *sum foliis serratis pinnatis rameis ternatis*.

GINSENG root, a medicine of extraordinary esteem among the Chinese as a general restorative and corroborant, though undoubtedly very far unequal to the character that has been commonly given of it, promises nevertheless, from its sensible qualities, to be

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(a) See Jussieu's paper on this subject in Geoffroy's *tract. de mat. med.* ii, 112.

an useful addition to the officinal drugs. It has little or no smell: to the taste it discovers a mucilaginous sweetness, approaching to that of liquorice, accompanied with some degree of bitterishness, and a slight aromatic warmth. It is far sweeter, and of a more grateful kind, than the roots of fennel, to which it has by some been supposed similar; and differs likewise remarkably from those roots, in the nature and pharmaceutic properties of its active principles; the sweet matter of the ginseng being preserved entire in the watery as well as in the spirituous extract, whereas that of fennel roots is destroyed or dissipated in the inspissation of the watery tincture. The slight aromatic impregnation of the ginseng is likewise in good measure retained in the watery extract, and perfectly in the spirituous; which last is a very pleasant, bitterish, warm sweet.

G L Y C Y R R H I Z A.

GLYCYRRHIZA Pharm. Lond. & Edinb. Radix dulcis; Liquiritia: Glycyrrhiza siliquosa vel germanica C. B. LIQUORICE: a plant with oval leaves, set in pairs along a middle rib; and small blueish papilionaceous flowers, standing in spikes, upon naked pedicles, at the junctures of the ribs of the upper leaves with the stalk: the flower is followed by a smooth pod containing flat kidney-shaped seeds: the root is very long, slender, flexible, of a brownish colour on the outside and yellow within. It is perennial, a native of the southern parts of Europe, and plentifully cultivated in England: the roots are fit for being taken up in the third year after the slips or offsets have been planted.

The liquorice root of our own growth is nowise inferior to that which is produced in its native climate. The root carefully dried and powdered, is of a richer and more agreeable taste than when fresh, and of a dull yellow colour with a cast of brown: the liquorice powder commonly sold is of a weaker taste, and a paler and bright yellow colour, from an admixture probably of other substances.

LIQUORICE, one of the principal sweets, is almost the only one of the common substances of that class which tends to abate thirst: this property was known to the Greeks, who hence distinguished it by the name *adipsos*, and employed it, as Galen observes, in hydropic cases, for alleviating the desire of drinking. It is an useful emollient and inconstant in defluxions on the breast, and supposed to prove at the

the same time gently detergent. Infusions and extracts, made from it, afford likewise very commodious vehicles or intermedia for the exhibition of other medicines; the liquorice taste concealing that of unpalatable drugs, more effectually than syrups or any of the sweets of the saccharine kind. It differs also from the sweets of the saccharine or honey kind, from the sweet juices of fruits, and from the sweet matter afforded by the common sorts of grain when beginning to vegetate; in being far less disposed to run into a fermentative state.

Liquorice root, lightly boiled in a little water, gives out nearly all its sweetness: the decoction, pressed through a strainer, and, after settling, carefully inspissated, with a gentle heat, till the matter will no longer stick to the fingers, affords an extract * exceedingly sweet, more agreeable than that brought from abroad † or prepared among ourselves in the way of business, of a pleasant smell, of a dark reddish brown colour in the mass, and when drawn out into strings, of a golden colour: its quantity amounts to near half the weight of the root. If the liquorice be long boiled, its sweetness is greatly impaired, and the preparation contracts an ungrateful bitterness.

* Extractum
glycyrrhizæ
Pharm. Lond.

† Extr. vulgo
succus glycyrr.
Pharm. Edinb.

Rectified spirit takes up the sweet matter of the liquorice equally with water; and as it dissolves much less of the insipid mucilaginous substance of the root, the spirituous tinctures and extracts are proportionably sweeter than the watery: they are accompanied also with a slight, but very sensible, pungency. The quantity of spirituous extract amounts only to about one half of the aqueous; and rectified spirit, digested on the aqueous extract, dissolves about one half of it, taking up nearly the whole of its sweetness.

G R A M E N .

GRAMEN CANINUM Pharm. Edinb. *Gramen caninum arvense seu gramen dioscoridis* C. B. DOGS GRASS, QUICK GRASS; COUCH: a creeping grass, of a whitish green colour, with knotty stalks, bearing a spike of imperfect flowers somewhat resembling a wheat ear: the roots are whitish or pale yellowish, long, slender, jointed at distances, variously bent and interwoven. It is a perennial weed, not easily extirpated.

THE roots of this plant, to the taste agreeably sweetish, are recommended as mild aperients in obstructions of the viscera.

M A T E R I A M E D I C A.

Boerhaave directs the expressed juice to be taken, in this intention, to the quantity of some pints a day; and observes, that cattle are generally found to have scirrhus livers in the winter, but that from fresh grass in the spring a diarrhoea ensues and the obstruction is resolved.

G R A N A P A R A D I S I.

GRANA PARADISI Pharm. Edinb. *Cardamomum majus seu grana paradisi Pharm. Paris.* *Meleguetta & maniguetta quibusdam.*
GRAINS OF PARADISE, called by some GREATER CARDAMOMS: angular reddish brown seeds, in appearance much resembling cardamom seeds, brought from the East Indies. The grains of paradise and cardamom plants belong both to one botanic genus, the *amomum* of Linnæus.

In pharmaceutical properties, the grains of paradise differ greatly from cardamom seeds, and greatly resemble pepper. They have somewhat of the flavour of the former, joined to the heat and pungency of the latter; which pungency resides, not like that of cardamoms in the volatile parts or essential oil, but like that of pepper in the resinous or more fixt matter. The distilled oil of grains of paradise, in smell sufficiently agreeable, is in taste of the milder kind: the remaining decoction, inspissated, yields an extract of considerable pungency: an extract made by rectified spirit is highly fiery. This spice is employed in some places for the same purposes as pepper; among us it is rarely made use of.

G R A N A T A.

GRANATA malus & punica malus Pb. Edinb. *Malus punica sativa C. B.* POMEGRANATE: a prickly tree or shrub; with long narrow leaves; deep red pentapetalous flowers set in bell-shaped cups of the same colour; producing fruit about the size of an orange, which consists of a thick tough rind, externally brownish and internally yellow, with a juicy pulp and numerous seeds in cells like a honeycomb. It is a native of the southern parts of Europe, and rarely brings its fruit to full perfection in this climate.

THE

THE flowers of this tree are mild astringents, similar to those of the wild pomegranate or balauftine (see *balauftia*), which last are preferred only on account of their being larger. The pulp of the fruit, when in perfection, is of a grateful dulco-acid taste, and of the same general qualities with the other *fructus horæi*. The rind of the fruit is moderately astringent, and in this intention is now and then directed, under the names of *cortex granati*†, *malicorium**, *psidium*,† *Ph. Lond.* and *sidium*: it yields with water near half its own weight of a very * *Ph. Edinb.* austere extract, but gives out very little to rectified spirit, its astringent matter, like that of the fruit of the acacia tree (see page 9), seeming to be indissoluble in spirituous menstrua: in this respect the astringency of the fruit differs from that of the balauftine or flower of the tree.

G R A T I O L A.

GRATIOLA Ph. Ed. Gratiola centaurioides C. B. Gratia dei. HEDGE HYSOP, HERB OF GRACE: a low plant, with oblong finely serrated leaves set in pairs on the stalks without pedicles: in their bosoms come forth solitary, whitish, tubulous, irregular flowers, followed by roundish pointed capsules full of small seeds: the root is slender, whitish, jointed, surrounded with fibres. It is perennial, a native of the southern parts of Europe, and raised in some of our gardens.

THE leaves of gratiola have a nauseous bitter taste, and no remarkable smell. They are said to be a strong hydragogue purgative; to operate upwards as well as downwards; and in weak constitutions, to occasion oftentimes violent gripes or superpurgations. Geoffroy observes, that the dose is an infusion of half a handful of the fresh, or a dram of the dry herb, in wine or water; that a slight decoction of it in milk operates far more mildly; and that an extract made with wine may be given to half a dram or two scruples. The roots are less ungrateful in taste, and less violent in operation, than the leaves: given in substance, from a scruple to a dram, they are said to vomit and purge, without much inconvenience: in some parts of Germany, they are reported (a) to be commonly employed in dysenteries, as ipecacoanha among us.

G U A I A C U M.

(a) Kramer, *Tentamen botanicum emendat. & auct. Introduct.* p. 18.

G U A I A C U M.

GUAIAECUM Pharm. Lond. & Edinb. *Guaiacum americanum primum fructu aceris sive legitimum* Breyn. prodr. *GUAIAECUM*: a large tree, with roundish box-like winged leaves, pentapetalous blue flowers in clusters, and a maple-like heart-shaped fruit including a single seed (a), a native of Jamaica, Hispaniola, and other warm parts of America; from whence the wood with its bark, and a concrete resinous juice exuding from incisions made in the trunk, are brought to us. The wood is called by some *lignum vitæ* and *sanctum*.

THE WOOD is very hard, compact, and so heavy as to sink in water: the outer part is of a pale yellowish colour, the heart of a dark blackish brown with a greater or less admixture of green. It scarcely discovers any smell, unless heated, or while rasping; in which circumstances it yields a light aromatic one: chewed, it impresses a mild acrimony, biting the palate and fauces. Its pungency resides in a resinous matter, which is totally extracted by digestion in rectified spirit, and partially by boiling in water: the spirituous tinctures are of a deep brownish red colour, the watery decoctions of a dark yellowish brown. On inspissating the liquors, nothing of the pungency of the guaiacum exhales or distils with either menstruum: the spirituous extract, nevertheless, discovers but little of the pungent taste which prevailed in the tincture, proving a tenacious almost pure resin, not dissoluble in the mouth or miscible with the saliva: the watery extract, which contains likewise no small proportion of resinous matter, dissolves slowly, and then manifests a notable degree of pungency. During the inspissation of the watery decoction, the resinous part is apt to separate and subside, unless a little spirit be added towards the end of the process to keep it united with the gummy: this extract is kept in the shops in a soft and a hard form; the first of a proper consistence for making into pills, the latter for being reduced into powder*. The quantity of solid extract obtained by rectified spirit amounts to about one fourth the weight of the wood; with water scarcely one sixth is obtained. After a pound of the shavings of the wood has been boiled in a gallon of water till half the liquor is wasted, and the coction successively repeated with five or six fresh gallons of water*, a considerable portion of resin may still be extracted by moderate digestion in rectified spirit.

* Extractum
ligni guaiaci
molle & durum
Pharm. Lond.

The

(a) Sloane, *Catalogus plantarum in insula Jamaica*, p. 186. *Voyage to Jamaica*, vol. ii. p. 133.

The BARK of guaiacum is considerably less hard, but not much lighter, than the wood: it is thin, smooth, composed as it were of a number of fine plates joined closely together, externally of a blackish grey colour variegated for the most part with greenish or livid specks, internally of a whitish or pale yellow. In taste and smell, it is similar to the wood, but weaker: the watery and spirituous extracts are of the same quality, but in less quantity.

The resin, or GUM, so called, is brought over in irregular masses, usually friable, of a dusky greenish, and sometimes of a reddish hue; intermixed with small pieces of the wood; of a pungent taste, but of little or no smell unless heated. It contains more resin than the watery extract made from the wood; and more gummy matter than the spirituous extract. The resin, which is the only active part, is obtained pure both from the gummy substance and from the woody and other indissoluble impurities, by digesting the compound in rectified spirit, drawing off the spirit from the filtered solution till the matter begins to grow thick, and then adding a quantity of water, which will precipitate the pure resin*, and keep dissolved such of the gummy parts as the spirit may have taken up. The quantity of resin, thus obtained, amounts commonly to about three fourths of the weight of the gum guaiacum.

* Refina
guaiaci P. E.

GUAIACUM was first received in Europe as a remedy for the venereal disease; and is said, in the warmer climates, to have been sometimes sufficient for subduing it. Though of itself greatly unequal among us to that distemper, it is a good assistant to mercurial alteratives, and a medicine of great use also in several other cases. To warm and stimulate the habit, to promote the excretions made from the blood, as perspiration and urine, and likewise the grosser evacuations from the intestinal canal, appear to be its primary virtues: in large doses, it operates as a purgative. Where the excretory glands are obstructed, the vessels lax and flaccid, and the habit replete with impure serous humours; in sundry cutaneous and catarrhus disorders, some female weaknesses, and chronical rheumatisms; it frequently has good effects. In thin emaciated habits and an acrimonious state of the fluids, it often does harm: in such cases, it has converted a simple itching of the skin to an almost leprous disorder, or increased the itching to an almost insupportable degree: where this happens, nitre, whey, saline laxatives, and warm bathing, are commonly found most effectual for abating the complaints. It is, in general, less proper in an advanced age than in other circumstances.

A decoction of half an ounce of the wood or bark may be taken in a day, at proper intervals, the patient keeping warm to promote a diaphoresis. The gum, or extracts made from the wood, are given from a few grains to a scruple or half a dram, and sometimes two scruples; which last dose proves, for the most part, considerably purgative. The extract is recommended by Hoffmann as an excellent errhine.

*Tinct.guaia-
cina volatil
Pharm. Lond.

† Balsamum
guaiacin. P. L.

‡ Elixir guaia-
cin. Ph. Ed.

Solutions or tinctures of the gum guaiacum are made in the shops, both with rectified spirit of wine, and with the dulcified aromatised volatile alkaline spirits, vulgarly called sal volatile, which in many cases promote its virtues. To six ounces of the gum guaiacum are directed, by the London college, two pints and a quarter of the volatile spirit*, and for a more saturated solution, one pint and a half of rectified spirit of wine, with the addition of a dram and a half of balsam of Peru†; by the Edinburgh college, three pints of volatile spirit, with six drams of balsam of Peru, and three drams of essential oil of saffrafras, which last is to be added to the strained liquor after the gum and balsam have been dissolved‡. All these are sufficiently elegant solutions of the guaiacum, and the additional articles coincide with its virtue: they may be given from twenty drops to a tea spoonful or more in any convenient vehicle. The gum, or resinous extracts, may be dissolved also, by the mediation of thick mucilages, in watery liquors; but these pungent medicines are, in general, more commodiously taken in the form of a bolus, than of any liquid solution.

G U M M I.

GUM: a concrete vegetable juice; of no particular smell or taste; becoming viscous and tenacious when moistened with water; totally dissolving in water into a liquid more or less glutinous in proportion to the quantity of the gum; not dissolving in vinous spirits or in oils; burning in the fire to a black coal, without melting or catching flame.

1. GUMMI ARABICUM *Pharm. Lond. & Edinb.* *Gummi acanthinum & thebaicum quibusdam.* Gum-arabic: the gum, exuding from the Egyptian *acacia* tree, whose fruit affords the inspissated juice of that name; brought to us from Turkey in small irregular masses, or vermicular strings, of a clear whitish or pale yellowish colour. The vermicular pieces are commonly accounted the best.

The medical character of gum-arabic is its glutinous quality; in consequence of which, it serves to incrassate and obtund acrimonious thin humours, in tickling coughs, alvine fluxes, and other like disorders: Prosper Alpinus says it is often used successfully by the Egyptians for restraining hemorrhagies(*a*). It is given chiefly in the form of powder, from a scruple to a dram or two; and sometimes dissolved in water, in such proportion as not to make the liquor disagreeably slimy. An ounce renders a pint of water considerably glutinous: four ounces give a thick syrupy consistence. The solutions mingle equally with vegetable and with mineral acids, and with neutral saline mixtures; but on the addition of alkalies, fixt or volatile, the liquor grows turbid, and the dissolved gum separates.

Though the gum in its dry state is not affected by oily liquids, yet when softened with water into the consistence of a thick mucilage, it unites, by trituration, both with the fluid oils and the thicker balsams, so intimately, that the whole compound dissolves in water, without separation, into an emulsion or milky liquor; one part of gum-arabic, softened with an equal weight of water, is sufficient for rendering four parts or more of oil or balsam dissoluble(*b*). The solid resins may in like manner be reduced into emulsions, by grinding them thoroughly with powdered gum, and adding the water by degrees. By these means, all resinous and oily bodies may be dissolved in watery liquors, and thus excellently fitted for being taken in a liquid form, without any alteration in their smell, taste, or virtue. These emulsions, like the solutions of the gum itself, mingle uniformly with acids and neutral salts; but on the mixture of any alkali, they suffer immediately a separation of their parts.

2. GUMMI SENEGALENSE *Ph. Paris*. Gum-senegal or senica: a gum brought from the island Senegal on the coast of Africa, said to be the produce of a tree of the same genus with that which affords the gum-arabic, *acacia siliquis compressis Pharm. Paris*. Greatest part of this gum is in larger and darker coloured masses than the arabic, and not smooth like it, but rough on the outside. In quality, the two sorts are scarcely different from one another, or from that which exudes from plum, cherry, and other trees among ourselves: in the shops, the clearer pieces of the gum-senegal generally supply the place of the more costly gum-arabic. It is supposed, that the Senegal gum

Q q

(*a*) *De plantis Ægypti*, p. 5.

(*b*) See on this subject the *medical observations and enquiries published by a society of physicians in London*, vol. i. art. 28. p. 358.

gum is the strongest and most substantial, and the Arabic the purest and finest.

3. TRAGACANTHA *Ph. Lond. & Edinb.* *Gummi tragacanthæ & dragacanthæ.* Gum tragacanth or dragant: the gum exuding from a prickly bush of the same name, (*tragacantha* C. B. goats thorn; *tragacantha cretica incana flore parvo lineis purpureis striato* Tour.) which grows wild in the warmer climates, and endures the cold of our own, but does not here yield any gum. This commodity is brought chiefly from Turkey, in irregular lumps, or long vermicular pieces bent into a variety of shapes: the best sort is white, semitransparent, dry, yet somewhat soft to the touch.

Gum tragacanth differs from all the other known gums, in being much stronger, or giving a thick consistence to a much larger quantity of water; and in being much more difficultly dissoluble, or rather dissolving only imperfectly. Put into water, it slowly imbibes a great quantity of the liquid, swells into a large volume, and forms a soft but not fluid mucilage: if more water be added, a fluid solution may be obtained by agitation, but the liquor looks turbid and wheyish, and on standing the mucilage subsides. Nor does the admixture of the preceding more soluble gums promote its union with the water, or render its dissolution more durable.

Tragacanth, as being by far the strongest of the gums, is usually preferred to the others for making up troches, and other like purposes, and appears likewise to be the most effectual as a medicine; but on account of its imperfect solubility is unfit for liquid forms. It is commonly given in powder with the addition of other materials of similar intention: the Edinburgh tragacanth powder consists of three parts of gum tragacanth, one of marshmallow root, one of liquorice, and one of starch*; the London, of three parts of gum tragacanth, three of gum-arabic, three of marshmallow root, one of liquorice, one of starch, and six of sugar†.

*Pulv. diatragacanthi *P. E.*

†Pulv. e trag. comp. *Ph. L.*

H Æ M A T I T E S.

HÆMATITES LAPIS *Pharm. Lond. & Edinb.* BLOOD-STONE: an elegant iron ore, found either along with the other ores of that metal, or in distinct mines by itself; in irregular masses, convex on one side and angular on the other, generally of a dark reddish

reddish colour with more or less of a yellowish cast, very heavy, and of great hardness. Broken longitudinally, it exhibits a number of striæ converging to the smaller end: the transverse fracture appears of a granulated texture. Exposed to a moderately strong fire, it falls by degrees into scales; and in this state is attracted by the magnet, and gives out its iron to acids, both which have little action upon it in the mass or when barely reduced to powder.

THIS mineral, finely levigated*, and freed from the grosser parts by washing over with water †, has long been recommended in hemorrhagies, fluxes, uterine obstructions, &c. in doses of from one scruple to three or four. We presume, that it is not expected to act any otherwise than by virtue of its ferrugineous matter; and that pure iron itself, or its preparations, are preferable to a stony ore of variable and uncertain contents.

Hæmatit. lap.
præparatus

*Pharm. Lond.

† Pharm. Ed.

H E D E R A .

HEDERA ARBOREA Pharm. Edinb. & C.B. *Hedera communis major* J.B. IVY: an evergreen plant, climbing and spreading on trees and old walls; with numerous slender twigs, and angular leaves. When grown old, the angles of the leaves disappear, the plant becomes erect, produces flowers, small and herbaceous, in autumn, and clusters of black berries in winter.

THE leaves of ivy have a very nauseous taste, and little or no smell. Haller says, they are commended in Germany against the atrophy of children. Among us they are sometimes applied externally by the common people, for drawing and healing running sores, and keeping issues open.

The berries are supposed by the ancients to have a purgative and emetic quality; and an extract made from them by water is called by Quercetanus *extractum purgans*(a). Later writers have recommended them, in small doses, as alexipharmac and sudorific: it is said, that in the London plague, the powder of them was given in vinegar or white wine with good success. It is probable, however, that the virtue of this compound was rather owing to the vehicle than to the ivy-berries.

Q q 2

From

(a) Duchesne [Quercetanus] Pharmac. dogmat. restitut. cap. 26.

From the stalks of this plant exudes, in the eastern countries, and sometimes in our own (a), a resinous juice, directed by the Edinburgh college as an officinal, under the name of *gummi hederæ*. This is in hard compact masses, externally of a reddish brown colour, internally of a bright brownish yellow with reddish specks or veins, of a vitreous glossiness but not pellucid, of a light agreeable smell when rubbed or heated, and a resinous subastringent taste. Rectified spirit receives from it a deep brownish red tincture, and dissolves near three fourths: near one fourth remains undissolved after the successive action of water and spirit. It has been recommended as corroborant, and resolvent, in cachexies, and uterine obstructions; but has rarely been otherwise made use of than as an ingredient in plasters: nor does it appear to have any virtues that common resin does not possess in at least an equal degree.

H E D E R A T E R R E S T R I S.

HEDERA TERRESTRIS Pharm. Lond. & Edinb. *Hedera terrestris vulgaris* C. B. *Chamæcissus*; *Chamæclema*. GROUND-IVY, ALEHOOF, TUNHOOF, GILL-GO-BY-GROUND: a low, somewhat hairy, creeping plant: with square stalks; roundish or kidney-shaped leaves set in pairs at the joints; in the bosoms of which come forth clusters of blue labiated flowers, whose upper lip is cloven and turned backwards. It is common in hedges and shady places, flowers from April to near the end of summer, and is generally found green all the winter.

THIS herb has a quick, bitterish, warm taste; and an aromatic but not very agreeable smell, which is in great measure dissipated by drying. It is supposed to be particularly serviceable in disorders of the breast, for cleansing and healing ulcerations in general, resolving coagulated juices, and purifying the blood. It has been customary to macerate the herb, for a diet-drink*, in malt liquors; to which it readily communicates its virtue, and which it remarkably helps to fine down. It gives out its virtues also, together with a yellowish brown tincture, by infusion in water: on inspissating the filtered liquor, only the unpleasant smell of the herb exhales, its more valuable parts remaining concentrated in the extract; which, on being tasted, impresses first a kind of sweetness, then a degree of bitterness, and

* Gill ale.

(a) Ray, *Historia plantarum*, tom. ii p. 1505.

and soon after discovers a strong pungency. To rectified spirit of wine it yields its virtue only in part: the deep green spirituous tincture has but little of the subtile pungency of the watery infusion; and the brownish yellow extract, obtained by inspissating the tincture, is much weaker in taste, as well as less in quantity, than the extract made with water.

H E L L E B O R U S A L B U S.

HELLEBORUS ALBUS Pharm. Lond. & Edinb. *Elleborum album* Matth. *Helleborus albus flore subviridi* C. B. *Vera-trum flore subviridi* Tourn.

WHITE HELLEBORE, SNEEZEWORT: a plant with large oval ribbed leaves, crumpled and plaited as it were, set alternately on a round firm stalk, and embracing it by a tubulous basis: in their bosoms, towards the top, appear clusters of hexapetalous greenish white flowers, followed each by three flat pods containing whitish triangular seeds: the root is short and thick, with numerous fibres hanging from it, externally of a brownish colour, internally white. It is common, on mountainous places, in Germany, Switzerland, and some other parts of Europe.

WHITE hellebore root has, when fresh, a disagreeable smell; but as brought into the shops, scarcely any: its taste is nauseous, bitterish, acrid, very penetrating and durable. The juice of the fresh root, in taste extremely acrid, is said, when mixed with the blood, to act as a poison. The powder of the dry root is sometimes mixed with external applications for destroying cutaneous insects: snuffed up the nose, in small quantity, it proves a violent sternutatory, and in this intention is sometimes used in lethargic and other disorders.

This root, taken internally, in doses of ten, fifteen, or twenty grains, operates with great violence both upwards and downwards, and has sometimes brought on convulsions and other terrible symptoms: Hoffmann observes, that it peculiarly affects the fauces, producing a strangulation and danger of suffocation, with extreme anxiety. It has been chiefly employed, and that but seldom, in some kinds of maniacal and apoplectic cases, as a last resource; in which it is said to have taken place after the stronger of the antimonial preparations had been given without effect. In minute doses, it has been sometimes used for acuating other purgatives and emetics; and sometimes also as an alterative or deobstruent in stubborn

born chronical distempers. In this last intention it is doubtless a medicine of great power, but its effects have not yet been sufficiently ascertained, to entitle it to a place in general practice.

Infusions of white hellebore root in water, and the extracts obtained by inspissating them, in colour yellowish, in taste less acrid than the root itself, appear to operate with less violence: Hermann, who makes the dose of the hellebore in powder from ten grains to fifteen, directs an infusion of a dram; and of the extract he gives about as much as of the root in substance. In the shops, the active parts of the root, extracted by water, are thence transferred into honey: a pound of the root is macerated three days in four pints of water, then boiled a little, the decoction, pressed out and strained, mixed with three pounds of clarified honey, and the mixture boiled down till the water has exhaled and the honey appears of its original consistence*. This preparation is used sometimes, but rarely, in glysters: a similar combination of the active matter of the hellebore with vinegar and honey, reduced to the consistence of a syrup, is recommended by Gesner, in an express treatise on this plant, as a safe internal medicine in phlegmatic disorders, particularly those of the breast, and said to promote, without disturbance, all the natural excretions: preparations of this kind, however, have one great inconvenience, that they do not admit so much precision, in regard to the strength, as is requisite in a medicine of so great activity.

*Mel hellebo-
ra:um Pb. L.

† Tinctura
veratri Pb. L.

A tincture of white hellebore made in proof spirit is likewise milder, both in taste and in operation, than the root in substance: a tincture drawn with a quart of proof spirit from eight ounces of the root†, is kept in the shops, and given sometimes in doses of a few drops as an alterative, and one or two drams and upwards as a cathartic and emetic. On inspissating this tincture, the remaining extract is found to taste stronger than that made with water, though not quite so pungent as the root itself.

HELLEBORUS NIGER.

HELLEBORUS NIGER Pharm. Lond. *Helleborus niger*
& veratrum nigrum & melampodium Pb. Ed. *Helleborus niger flore*
rosso C. B. BLACK HELLEBORE OR CHRISTMAS-FLOWER: a
 low plant, without any other stalk than the pedicles of the leaves
 and

and flowers, which are pretty thick, and generally streaked with red or purple: the leaf is divided, quite to the pedicle, into six, seven, or more, smooth, firm segments, indented from about the middle to the extremity: the flower is large, naked, pentapetalous, of a pale rose colour, with numerous stamina in the middle, which are followed by five or six pods full of shining blackish seeds, the petala continuing, and changing greenish: the root consists of numerous fibres, hanging generally from a knotty head, externally of a black colour, internally white. It is perennial, grows wild in the mountainous parts of Germany, and flowers in our gardens in January.

BLACK hellebore root, in doses of from ten grains to half a dram, proves a very strong, though not very violent cathartic. The hellebore of the ancients, which was never ventured on without extreme caution and as a last resource, appears to have been a different species from ours, much larger and of more violent operation, called by Tournefort *belleborus niger orientalis, amplissimo folio, caule præalto, flore purpurascente*, which is still said to be found in plenty about mount Olympus, and in the island of Anticyra, celebrated of old for the production of this reputed antimaniacal drug. In the present practice, this root or its preparations are used sometimes as a purgative in hydropic and other cases where the stronger cathartics are required; but oftener in small doses as an attenuant and deobstruent. It is found particularly serviceable against obstinate suppressions of the menstrual purgations, in plethoric habits and sanguine constitutions, where chalybeates are ineffectual or injurious.

The taste of this root is bitter and pungent: chewed for a few minutes, it seems to benumb the tongue. The fibres are stronger in taste, and medicinally more active, than the tuberous head; and the cortical part of this, than the internal. It is said to prove purgative when applied only externally, in fomentations, to the belly or feet. Water extracts by coction, and proof spirit by digestion, nearly all the virtue of the hellebore: rectified spirit takes up chiefly the irritating resinous part. After due coction in water, it gives out little or nothing to spirit; but after repeated digestions in pure spirit, it still yields to water a considerable proportion of a diuretic mucilaginous substance: the quantity of watery extract amounts to about one third of the root, the spirituous only to about one fifth.

The

* Extractum
helleb. nigri
Ph. L. & Ed.

The extract made with water * is the best and safest preparation of this root when designed for a cathartic; as it contains both the purgative and diuretic parts of the hellebore, and as the irritating power of its active matter is considerably abated by the boiling: it may be given from eight or ten grains to a scruple or more, but is used oftener in conjunction with other materials of similar intention than by itself. A tincture made in proof spirit appears the most eligible preparation for the purposes of an alterative or deobstruent: four ounces of the root may be digested in a quart of the spirit, with the addition of thirty or forty grains of cochineal to render the colour more slightly; and the filtered tincture † given to the quantity of a tea spoonful, twice a day, in warm water or any other convenient vehicle.

† Tinctura
melampod.
Pharm. Lond.
helleb. nig.
Pharm. Edinb.

H E P A T I C A.

HEPATICA terrestris sive lichen Ph. Edinb. *Lichen petræus latifolius sive hepatica fontana* C. B. *Hepatica terrestris vulgaris seu lichen officinarum* Raii hist. i. 124. *Jecoraria*. LIVERWORT: a species of moss; consisting of numerous obtusely lacinated leaves, lying over one another, marked on the surface with white tubercles reticularly disposed through the green substance of the leaf, shooting out underneath fine capillary roots: from the extremities of the leaves issue clear whitish pedicles, bearing globular bodies, which when ripe contain black minute seeds like dust. It is perennial, grows on moist stony places, and runs up to seed in March or April.

THIS moss is recommended as an aperient, resolvent, and purifier of the blood. From the penetrating though mild pungency and bitterishness of its taste, sinking as it were into the tongue, it promises to be a plant of no inconsiderable virtue, though in this country at present disregarded. It gives out its active matter both to watery and spirituous menstrua.

H E P A T I C A N O B I L I S.

HEPATICA NOBILIS Pharm. Edinb. *Hepatica trifolia sive herba trinitatis* Pharm. Paris. *Trifolium hepaticum flore simplicis* C. B. *HEPATICA, NOBLE LIVERWORT, GOLDEN TREFOIL, HERB-TRINITY*: a low plant, without any other stalk than the pedicles

pedicles of the leaves and flowers: the leaf is cut, not very deep, into three lobes, entire about the edges: the flower is commonly blue, sometimes reddish or white, hexapetalous, set in a three-leaved cup, with numerous stamina in the middle, which are followed by a cluster of whitish seeds. It is perennial, grows wild on gravelly shady grounds in Germany and other parts of Europe, and flowers in our gardens in March or sooner.

THIS herb is a mild restraining and corroborant; in which intentions, infusions of it have been drank as tea, or the powder of the dry leaves given to the quantity of half a spoonful at a time. Its astringent matter is dissolved equally by water and spirit; and on inspissating the filtered tinctures, remains entire in the extracts: it is found however, even when thus concentrated, to be still but weak. The watery extract is larger in quantity, and proportionably weaker in taste, than the spirituous.

H E R M O D A C T Y L U S.

HERMODACTYLUS Pharm. Paris. HERMODACTYL: the root of an unknown plant, brought from Turkey; of the shape of a heart flatted; of a white colour; compact and solid, yet easy to cut or powder.

THIS root has a viscous, sweetish, farinaceous taste, and no remarkable smell. It was ranked by the ancients among the cathartics, but such as we now meet with in the shops does not appear to have any purgative virtue. Alpinus relates, that hermodactyls, the same with what are sold in Europe, are eaten by the Egyptian women to the quantity of several roots at a time; that they do not move the belly, or produce any ill effect: that they are supposed to be very nutritious, and contribute to procure the fatness and plumpness there admired (*a*). Those, who report them to be purgative, have probably ascribed to the hermodactyls a part of the effects of the substances which were joined to them; for, being acknowledged slow in operation, they have been commonly acuated with aloes and other cathartics. They have long been an entire stranger to practice, and the colleges both of London and Edinburgh have now deservedly expunged them from their catalogues of officinals.

R r

H I B E R-

(*a*) *De medicina Ægyptiorum, lib. iii. cap. 16. & lib. iv. cap. 1.*

H I B E R N I C U S L A P I S.

HIBERNICUS LAPIS & *tegula hibernica* & *ardesia hibernica* Pharm. Edinb. *Hardesia* Pharm. Paris. IRISH SLATE: a kind of slate or very soft stone found in different parts of Ireland; in the mass, of a blueish black colour and staining the hands; when powdered, pale at first, and in keeping growing black; in the fire, yielding sulphureous fumes, and acquiring a pale red colour with an additional hardness.

THIS mineral, according to Dr. Rutty's experiments, is a ^{mixture} ~~mixture~~ of ferrugineous vitriol; which it discovered by its taste, and by the black colour which infusions of it struck with galls (a). The specimens I examined (procured from our shops) had no vitriolic taste, and infusions of them in water suffered no visible change from galls: but that they contained materials from which vitriol is producible, appeared from the sulphureous fumes they emitted in the fire, and from their giving out, when burnt, a calx of iron to aqua regis discoverable by the tincture striking a blue colour with the lixivium described under the article *ferrum*: their burning hard shews their earthy matter to be chiefly of the argillaceous kind. It may therefore be presumed, that this fossil consists of argillaceous earth impregnated, like the pyritæ, with sulphur and iron; and that, like the pyritæ also, it is capable of becoming vitriolic by long exposure to air and moisture. It has been sometimes taken by the common people, powdered and mixed with spruce beer, against inward bruises; but its medicinal use in any intention is not much to be commended, on account of the variability of its qualities.

H I P P O S E L I N U M.

HIPPOSELINUM sive *smyrnum* Ph. Edinb. *Hipposelinum theophrasti* vel *smyrnum dioscoridis* C. B. *Macerone* & *olus atrum* & *herba alexandrina quibusdam*. ALEXANDERS: an umbelliferous plant, with leaves like those of smallage but larger; producing thick, roundish, striated, black seeds. It is biennial, and grows wild about the sea coasts.

THIS

(a) *Synopsis of mineral waters*, p. 227.

THIS plant is nearly similar in quality to smallage, but somewhat stronger both in smell and taste: it was formerly blanched in our gardens for culinary use, but has now given place to celeri, which is more grateful. The seeds are bitterish and aromatic, and have been now and then employed, like the other warm seeds, as carminatives, stomachics, and aperients: they give out their virtue imperfectly to water, completely to rectified spirit: in distillation with water, they yield a small quantity of essential oil, smelling agreeably of the seeds, and in taste moderately pungent. The roots are bitterer than the seeds, and stand recommended as resolvents, diuretics, emmenagogues: they yield, on incision, a whitish juice, which is said, when inspissated, to approach in taste to myrrh; whence the plant has been called, from one of the names of that gummy-resin, *smyrnium*.

H O R M I N U M.

HORMINUM SATIVUM five *sclarea* Pharm. Edinb. *Hor-*
minum sclarea dictum C. B. *Gallitricum sativum* J. B. GARDEN
CLARY: a whitish green, slightly hairy plant, with square stalks,
and large wrinkled oblong somewhat heartshaped leaves: both the
leaves, and the divisions and subdivisions of the branches, stand in
pairs: on the tops grow long spikes of blueish labiated flowers, at the
origin of which are little concave purplish leaves without pedicles:
the upper lip of the flower is long and arched, the lower smaller and
cut into three segments, the middlemost of which is hollowed like a
spoon. It is biennial, a native of the warmer climates, and culti-
vated with us in gardens.

THE leaves and seeds of clary are recommended as corroborants and
antispasmodics; particularly in the fluor albus and other like weak-
nesses, and in hysterical complaints. They have a bitterish warm
taste; and a strong smell, of the aromatic kind, but not agreeable.
The leaves discover to the touch a large quantity of unctuous resinous
matter, in which the virtue of the herb appears to reside, which is
readily dissolved by rectified spirit, and which, on inspissating the
fine green tincture, remains nearly entire in the dark brownish ex-
tract: this extract smells more agreeably than the herb in substance,
and is in taste moderately warm, bitterish, and pungent. Water
takes up likewise by infusion great part of the active matter of the

clary, and carries off its whole flavour in evaporation, leaving a weak, disagreeably bitterish, roughish extract. In distillation with water, there arises, both from the leaves and seeds, a small quantity of essential oil, smelling strongly of the clary: from sixty-four ounces, or five hundred and twelve drams, of the seeds, was obtained only about one dram of oil. The leaves or seeds, fermented with malt liquors, are said to remarkably increase their inebriative quality.

H Y O S C Y A M U S.

HYOSCYAMUS Pharm. Paris. HENBANE: a plant with soft, hairy, oblong, deeply notched leaves; and bell-shaped flowers cut into four segments, followed by irregular cup-like capsules, whose cover falling off discloses numerous small seeds in two cells.

1. *HYOSCYAMUS Ph. Edinb.* *Hyoscyamus niger vel vulgaris C. B.* *Hyoscyamus niger, sive apollinaris herba, altercum arabum Lob.* *Faba suilla.* Black henbane: with large leaves joined close to the stalk; dusky coloured flowers; and greyish seeds. It is biennial, and grows wild in waste rich grounds.

2. *HYOSCYAMUS ALBUS: Hyoscyamus albus major vel tertius Dioscoridis & quartus plinii C. B.* White henbane: with smaller and woollier leaves set on pedicles; white flowers; and whitish seeds. It is annual, and a native of the southern parts of Europe.

THESE plants have a fetid smell, of the narcotic kind: on the organs of taste they make no considerable impression, the leaves being little other than herbaceous, the seeds somewhat mucilaginous, and the roots sweetish. The leaves, applied externally, in the form of cataplasm, fomentation, or unguent, are said to be refrigerant, discutient, and to abate not only inflammatory but rheumatic pains. Internally, all the parts are highly narcotic, and occasion, when taken in no great quantity, violent disorders of the senses, sometimes of long duration, and sometimes fatal. There are several instances also of the senses being strongly affected by the effluvia of the plant; and by the vapour that arises upon scorching it over the fire, which has by some been imprudently directed to be received into the mouth against toothachs (a). The effects of small doses, insufficient to do harm, are

(a) Vide Lindestolpe, *De venenis*, cap. x. thes. 20. edit. Stentzel. p. 559. Konig, *Regnum vegetabile*, sect. iv. p. 869. Hoyer, *Acta physico-medica naturæ curiosorum*, vol. V. obs. 69. p. 260. Hoffmann, *Philosophia corporis humani morbofi*, p. ii. cap. vii. §. 7. *Oper. omn.* i. 223. Haller, & auctores ab eo citatos, *Stirp. helvet.* p. 513.

are not well known. The seeds have been given from two or three grains to a scruple, and said to have proved beneficial in spittings of blood and thin sharp defluxions on the lungs, and likewise in some convulsive disorders. The present practice, however, has deservedly rejected a medicine of such suspicious qualities, and which appears to be at best but a precarious succedaneum to the products of the poppy. It is said, that the seeds are the mildest part, and the root the strongest; that the black sort is in all its parts stronger than the white; and that the seeds are the more deleterious, the more they approach to blackness.

H Y P E R I C U M.

HYPERICUM Ph. Lond. & Edinb. *Hypericum vulgare* C. B.

Androsæmum sive perforata Gesn. ST. JOHN'S WORT: a plant with slender round stalks, which have two fine ridges, or sharp edgings, opposite, alternately, from joint to joint; small oblong obtuse leaves, set in pairs without pedicles; and numerous gold-coloured pentapetalous flowers on the tops of the branches, followed by little rough blackish husks, each of which is divided into three cells full of minute seeds. It is perennial, grows wild in woods and uncultivated places, and flowers in June.

THIS plant has been recommended as a medicine of peculiar efficacy in hysterical, hypochondriacal, and melancholic disorders, and alienations of mind; from its supposed virtue in which cases, it received the name of *fuga dæmonum*. It promises to be of some use as a mild detergent and corroborant, discovering to the senses a resinous, bitterish, balsamic impregnation. The leaves, viewed against the light, exhibit numerous transparent points, which are found to be little vesicles full of essential oil: in distillation with water, the oil separates and rises to the surface, approaching in some degree to that of turpentine. About the edges of the flower are observed black points, and on the seedvessels small tubercles, which appear to be similar oily vesicles: the tops, when the seeds are formed, have the strongest terebinthinate smell, and yield in distillation the greatest quantity of oil. The flowery tops give a deep yellowish red tincture to rectified spirit, and a paler red to expressed oils: a tincture of the flowers in oil olive, made by macerating four ounces of the full blown

^{* Ol. hyperic.} blown flowers, fresh gathered and freed from the cups, in a quart of
^{Pharm. Lond.} oil, till the oil is sufficiently coloured*, is kept for external purposes
 in the shops.

H Y P O C I S T I S.

HYPOCISTIDIS SUCCUS Pharm. Lond. & Edinb. The juice of HYPOCISTIS: an inspissated juice, of a firm consistence and a bright black colour; prepared from a certain fleshy vegetable production (*hypocistis sub cisto C. B.*) which, in the warmer climates, grows up from the root of different kinds of the cistus or rock-rose, and bears little flowers on the top but no leaves.

THIS juice is a mild astringent, of no particular smell or flavour. It is looked upon as similar to the Egyptian acacia; from which, however, it differs remarkably in its pharmaceutical properties, the hypocistis being almost totally dissoluble in rectified spirit of wine, whereas acacia gives out little or nothing to that menstruum. It is at present scarcely otherwise made use of than as an ingredient in some of the old compositions.

H Y S S O P U S.

HYSSOPUS Pharm. Lond. & Edinb. Hyssopus officinarum cærulea sive spicata C. B. HYSSOP: a low shrubby plant; with brittle branched stalks, square when young and round when they grow woody; oblong narrow green leaves set in pairs; and loose spikes of labiated blue flowers, whose upper lip is cloven and turned upwards, standing in rows, towards the tops of the stalks, all on one side. It is perennial, cultivated in gardens, and flowers in July and August.

THE leaves of hyssop have an aromatic smell, and a bitterish moderately warm taste. They give out their active matter both to water and rectified spirit, to the last most perfectly: the watery infusions are of a brownish or greenish yellow, the spirituous tinctures of a dark blackish green colour. On inspissating the spirituous tincture, very little of the flavour of the herb exhales or distils with the menstruum: the remaining extract is bitterish and very warm, and discovers a penetrating pungency, somewhat like that of camphor.

^{* Aq. hyssopi} Water, distilled from the fresh herb * is found pretty strongly im-
^{Pharm. Edinb.} pregnated

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pregnated with its flavour: an essential oil separates and rises to the surface, to the quantity of about an ounce from six pounds of the leaves, in smell exactly resembling the hyssop, in taste very pungent, in colour, when newly distilled, yellowish with a slight cast of green, which by age changes to a brownish: the decoction, remaining after the distillation, is disagreeably roughish, bitterish, and subsaline.

This plant is accounted particularly serviceable, as an attenuant, corroborant, and expectorant, in humoural asthmas, coughs, and other disorders of the breast and stomach unaccompanied with inflammatory symptoms: in these cases, infusions of the leaves, which are not unpalatable, may be sweetened with honey or sugar, and drank as tea. The distilled water, by some made choice of as a basis for pectoral mixtures and juleps, does not appear superiour or equal to the infusion.

J A C O B Æ A .

JACOBÆA Pharm. Paris. Jacobæa vulgaris laciniata C. B. Herba sancti jacobii & senecio major quibusdam. RAGWORT, SAINT-JAMES-WORT, SEGGRUM: a plant with oblong dark green leaves, deeply jagged almost to the rib, and the sections jagged again and somewhat crumpled: on the tops of the stalks grow umbel-like clusters of yellow flowers, of the radiated discous kind, followed by small oblong seeds winged with down. It is perennial, common in uncultivated fields and by road sides, and flowers in July.

THE leaves of ragwort have a roughish bitterish subacid taste, extremely nauseous, far different from that of the herbaceous groundsel to which they have by some been accounted similar. Simon Pauli relates, that they were found of great service in an epidemic camp dysentery, many soldiers having been cured of that disease by drinking a decoction of them; and expresses some concern, that a medicine of so much efficacy should be at the same time so very disgusting to the palate. This however is an inconvenience that may be easily palliated: the active matter of ragwort, (whatever its virtue may be) is dissolved both by water and by rectified spirit, and on inspissating the filtered tinctures, remains concentrated in the extracts; which may be taken, without offence to the palate, in the form of a bolus or pill. The spirituous extract is in less quantity than the watery, and proportionably stronger in taste; though rather less nauseous than the herb in substance.

J A L A P I U M .

J A L A P I U M.

JALAPIUM Pharm. Lond. Jalappa Pharm. Edinb. Mechoacanna nigra. JALAP: the dried root of the *mirabilis peruviana* or marvel-of-peru (a), *mirabilia peruviana* Gerard. *solanum mexiocanum flore parvo* C. B. a plant with thick, fleshy radish-like roots; jointed stalks and branches; acuminate somewhat oval leaves set in pairs; and elegant, numerous, monopetalous, funnel-shaped flowers, purple, yellow, white, or diversly variegated, standing in double cups, of which the innermost incloses the flower and the outer surrounds its basis: each flower is followed by a wrinkled, roundish, pentagonal umbilicated fruit, about the size of a pepper corn, including a white kernel. It is perennial, a native of the East Indies, and cultivated in our gardens on account of the beauty and duration of its odoriferous flowers, which open only during the night, and of which it produces continual successions from June or July till checked by frosts; at which time the roots, which do not endure our winter, are taken up, and preserved in sand till spring. Whether the roots produced here are equivalent in virtue to those which are brought from abroad, has not, that I know of, been tried.

The officinal jalap roots come from the province of Xalapa in New Spain; in thin transverse slices, solid, hard, weighty, of a blackish colour on the outside or cortical part, internally of a dark greyish with several black circular striæ: the hardest, darkest coloured, and those which have the most of these resinous veins, are the best. Slices of bryony root, which are said to be sometimes mixed with them, may be distinguished by their whiter colour and less compact texture.

THIS root has scarcely any smell, and very little taste upon the tongue: swallowed, it affects the throat with a slight kind of pungency and heat. Taken in doses of a scruple or half a dram, it proves an effectual and in general a safe purgative; very rarely occasioning any severe gripes or nausea which too frequently accompany the other strong cathartics. Some have prohibited the use of this cathartic to children; apparently on no very good foundation. Young children, from the laxity of their solids, and the soft lubricating quality of their food, generally bear these kinds of medicines better than adults, and adults of a spongy, lax, or weak habit, better than

(a) Linnæus, *Species plantarum*, p. 177.

than the rigid or robust. Few, if any, of the strong resinous purgatives are in either case more innocent than jalap.

Jalap root, digested in as much rectified spirit as will cover it to the height of about four fingers, gives out greatest part of the resinous matter in which its activity resides, and tinges the menstruum of a yellowish brown colour. On inspissating the filtered tincture to about one half, and adding to the remainder a proper quantity of water, the liquor becomes milky, and on standing deposits the pure resin*. * *Refina jalappæ Pb. Ed.* This preparation, given by itself, irritates and gripes violently, without proving considerably purgative: thoroughly triturated with testaceous or other powders, or with soap; or ground with almonds or powdered gum-arabic, and made into an emulsion with water; or dissolved in rectified spirit, and mixed with a proper quantity of syrup, that the solution may bear being diluted with watery liquors without precipitation; it purges, in doses of eight or ten grains, as effectually, and for the most part as mildly, as the jalap in substance.

The jalap remaining after sufficient digestion with spirit, has no cathartic virtue: boiled in water, it gives out a mucilaginous substance, which operates only by urine. Water applied at first takes up a portion of the resin along with the gum, and hence the watery decoction and extract prove weakly cathartic as well as diuretic; the root still retaining great part of its resin, so as to purge considerably. The resinous and gummy parts may be united into one extract, by first drawing a tincture from the powdered root with rectified spirit, then boiling the residuum in fresh quantities of water, evaporating the decoctions till they begin to grow thick, mixing in by degrees the tincture inspissated to a like thickness, and continuing a gentle heat till the whole is reduced to a due consistence*. * *Extractum jalappæ Pb. L. & Ed.* This extract may be taken by itself in doses of twelve grains or more; the gummy matter of the jalap being sufficient to divide the resin and prevent its too violent irritation.

The proportion of active matter differs greatly in different parcels of jalap; sixteen ounces of some sorts yielding hardly two of resin, while the same quantity of others affords three or four. Hence the extracts of jalap appear preferable to the root in substance, not only on account of the dose being rendered smaller by the rejection of the woody parts, but likewise as being more uniform and certain in strength. Tinctures of jalap made in proof spirit are nearly similar in quality to the gummy-resinous extract, this menstruum taking up both the resinous and gummy parts of the root: these preparations,

made from different kinds of jalap, will vary in strength somewhat more than the solid extract or resin, but not so much as some have suspected, or as the roots in substance; for in the proportions usually employed, the proof spirit does not take up the whole of the virtue of any kind of jalap, and perhaps it does not extract much more from one kind than from another, provided the jalap be of moderate goodness. If three * or four † ounces of jalap be digested in a pint of proof spirit, the residuum will still give out a portion of resinous matter to rectified spirit, and this resin will be in greater quantity in proportion as the root itself was the more resinous.

Tinct. jalap.

* Pharm. Ed.

† Pharm. Lond.

I C H T H Y O C O L L A.

ICHTHYOCOLLA *Pb. Edinb.* ISINGLAS or FISH-GLUE: a solid glutinous substance, prepared from a fish of the sturgeon kind caught in the rivers of Russia and Hungary. The skin, fins, &c. are boiled in water, the decoction inspissated to a due consistence, and then poured out so as to form thin cakes; which are either exsiccated in that form, or cut while soft into slices and rolled up into spiral, horse shoe, and other shapes. The best is in thin, clear, and almost transparent pieces.

ICHTHYOCOLLA is one of the purest and finest of the animal glues, of no particular smell or taste. Beaten into shreds, it dissolves pretty readily in boiling water or milk, and forms a gelatinous substance, which yields a mild nutriment, and proves useful medicinally in some disorders arising from a sharpness and colliquation of the humours. A solution of it in water, curiously spread, whilst hot, upon silk, affords an elegant sticking plaster for slight injuries of the skin, not easily separable from the part by water, and scarcely inferior to the more compounded one sold under the name of the ladies black plaster, in which different balsams and resins are joined to the ichthyocolla.

I L L E C E B R A.

ILLECEBRA, Vermicularis, Piper murale. Sempervivum minus vermiculatum acre C. B. WALL-PEPPER or STONECROP: a small plant, having its stalks covered with little fleshy conical leaves set thick

thick together in the manner of scales: on the tops appear pentapetalous yellow flowers, each of which is followed by several pods full of small seeds. It is annual, grows on old walls and dry stony grounds, and flowers in July.

THIS plant has a very acrid taste, and no remarkable smell: applied externally, it vesicates the part: taken internally, in no great quantity, it proves strongly emetic. Its active matter appears, from the accounts given by authors, to be in great part forced out along with the watery juice by expression; to dissolve both in water and fermented liquors by infusion; and not to be dissipated, or not soon, by boiling. It is said to have been used with success in sundry chronical disorders^(a), but its durable acrimony, and the great vehemence of its operation, have prevented its being received in practice.

I M P E R A T O R I A.

IMPERATORIA sive *magistrantia* Pharm. Edinb. *Imperatoria*
major C. B. *Imperatoria ostrutium* Lob. *Astrantia* Dod. *Smyr-*
nion hortense Trag. *Struthium hodie vocatum* Cord. MASTER-

WORT: an umbelliferous plant, with large winged leaves divided into three indented segments; producing thick oblong striated seeds surrounded with a narrow leafy margin: the roots are oblong, thick, knobby, jointed, with several lateral fibres, brown on the outside and whitish within. It is perennial, a native of the Alps and Pyreneans, from whence we are supplied with roots supposed to be superiour to those which are raised in our gardens.

THE root of *imperatoria* is a very warm and moderately grateful aromatic, nearly of the same nature with that of *angelica*. Infused in water, or digested in rectified spirit, it impregnates both menstrua strongly with its fragrant smell; the former weakly, the latter strongly, with its warmth, pungency, and bitterishness; the former with a muddy brownish, the latter with a bright yellow colour. On inspissating the spirituous tincture, very little of its flavour exhales with the spirit: the remaining deep yellow extract smells moderately of the root, and impresses on the organs of taste a considerable bitterness and glowing pungency. Water carries off in evaporation

S s 2

nearly

(a) Below, *Ephem. nat. curiosorum*, dec. i. ann. vi & vii. obs. 22. Boerhaave, *Hist. plant. lugd. bat.* p. 369.

nearly all the specific flavour of the masterwort, leaving, in the dark brown extract, a nauseous bitterness with a slight degree of warmth or acrimony.

I P E C A C O A N H A.

IPECACOANHA Pharm. Lond. Ipecacuanha Pharm. Edinb. Hipecacuanna; Radix brazilensis. IPECACOANHA: a slender root, brought from the Spanish West Indies, in short pieces, variously bent and contorted, full of wrinkles and deep circular fissures, which reach quite down to a small whitish woody fibre that runs in the middle of each piece: the cortical part is compact, brittle, and looks smooth and resinous on breaking. Two sorts of this root are met with in the shops, one brought from Peru, the other from Brazil; usually denominated from their external colour, the first *whitish, grey, or ash-coloured*, the other *brown* ipecacoanha. The first is generally preferred, being found to operate with the greatest certainty and mildness.

A root has been brought over under the name of white ipecacoanha, which has little or nothing of the virtues of the two foregoing: this is readily distinguished by its yellowish white colour, woody texture, and having no fissures or wrinkles. More dangerous abuses have sometimes been committed, by the substitution or mixture of the roots of an American *apocynum*, which have been found to operate with great violence both upwards and downwards, and in some instances, as is said, to prove fatal: these may be known by their being larger than the true ipecacoanha, the fissures more distant, the intermediate spaces smoother, and more particularly by the colour of the medullary fibre, which in the poisonous roots is a deep reddish yellow, in the true ipecacoanha a whitish or pale greyish.

IPECACOANHA has scarcely any smell, unless during its pulverization or infusion in liquors, in which circumstances it emits a faint nauseous one: in chewing, the wrinkled cortical part proves bitterish and subacid, and covers the tongue as it were with a kind of mucilage; the medullary woody fibre is nearly insipid. Geoffroy observes, that in pulverizing considerable quantities, the finer powder that flies off, unless great care be taken to avoid it, is apt to affect the operator with a difficulty of breathing, a spitting of blood, a bleeding at the nose, or a swelling and inflammation of the eyes and face, and sometimes of the throat; and that these symptoms go off
in

in a few days, either spontaneously, or by the assistance of venæ-section.

THIS root is the mildest and safest emetic that has yet been discovered; and may be ventured on almost in the lowest circumstances where the stomach requires to be unloaded. The common dose is from ten grains to a scruple and upwards: in the medical observations and enquiries published by a society of physicians in London, a great number of cases is mentioned, in which two grains operated sufficiently: in constitutions which bore vomiting ill, and which were greatly ruffled by the usual doses, two or three grains operated with great ease. Where it fails of operating upwards, it commonly purges, and sometimes considerably: in this intention it may be employed, in several cases, to advantage, in conjunction with other purgatives, to determine its action downwards: I have found fifteen grains of jalap, with two or three of ipecacoanha, purge more than twice the quantity of jalap by itself.

The ipecacoanha was first introduced, about the middle of last century, as a specific in dysenteries; and repeated experience has confirmed its efficacy in this distemper, not only when used as an emetic, but likewise when given in such small doses as scarcely to affect the grosser emunctories. In common dysenteric fluxes, it frequently performs a cure in a very short space of time; not by its exerting an astringent power, as some have supposed, for it does not appear to have any real astringency; nor by its mucilaginous substance covering the intestines and incrassating thin humours, as others, with more plausibility, have inferred both from its mucilaginous taste, and from the ropiness and sliminess which it manifestly communicates to the contents of the stomach; but apparently by promoting perspiration, the freedom of which is in these cases of the utmost importance, and an increase of which, even in a state of health, is generally observed to diminish the evacuation by stool. In common dysenteries, the skin is for the most part dry and tense, and perspiration obstructed; and indeed this obstruction, and the conversion of the perspirable matter upon the intestines, is very frequently the immediate cause of the disease. Most of the common diaphoretics pass off, in these cases, without effect: but ipecacoanha, if the patient after a puke or two be covered up warm in bed, brings on a free diaphoresis or a plentiful sweat, by which I have often known the distemper terminated at once. In putrid or malignant dysenteries,

dysenteries, or where the patient breathes a tainted air, it has not been found equally successful: it requires here to be continued for several days, or repeated as an evacuant, with the further assistance of rhubarb, cordial antiseptics, and mild opiates or astringents. Where plentiful evacuation is necessary or the offending matter lodged deep, and the operation can be borne without inconvenience, the ipecacoanha is most advantageously given in small quantities at a time, and repeated at proper intervals, till a vomiting or purging comes on (a).

The emetic virtue of ipecacoanha resides in its resinous parts. By digesting the root in fresh quantities of rectified spirit, and inspissating the filtered tinctures, a resinous extract is obtained, to the quantity of about three ounces from sixteen, which, by itself, vomits strongly, and with great irritation: the residuum yields to water nearly four ounces of a soft tenacious mucilage, which has scarcely any sensible operation. If only a part of the resin be extracted, by slight digestion in a little highly rectified spirit, the remaining root proves more gentle, and rather purgative than emetic: in this state it is recommended by some in dysenteries accompanied with a considerable fever, where the root with its natural quantity of resin might irritate too much; but as small doses of the root itself operate with all the ease and gentleness that can be wished for, this precarious method of weakening it does not appear adviseable.

* Vinum ipe-
cacoanhæ
Pharm. Lond.

† Tinctura
ipēcacuanhæ
Pharm. Edinb.

By boiling in water, a part of the resin is taken up with the mucilage; the extract amounting to about six ounces from sixteen, and proving mildly emetic. The best menstruum for extracting the entire virtue of the root appears to be a mixture of one part of pure spirit with two or rather three parts of water: after sufficient digestion in this menstruum, neither water nor spirit took up any thing considerable from the remainder. In the shops wine is employed: an ounce of the root is macerated or digested in a pint of canary * or mountain†; to which some add a quarter of an ounce of dried orange peel * to cover the unpleasant flavour of the ipecacoanha. These tinctures, in doses of from half an ounce or less to an ounce and upwards, prove mildly emetic.

(a) Pringle, *Observations on diseases of the army.*

I R I S.

IRIS; a perennial plant with long narrow sword-like leaves, standing edgewise to the stalk; and large naked flowers, divided deeply into six segments, of which, alternately, one is erect and another arched downwards, with three smaller productions in the middle, inclosing the stamina and pistil: the roots are tuberous, irregular, and full of joints.

I. IRIS NOSTRAS PURPUREA *Pharm. Edinb.* *Iris vulgaris germanica sive silvestris C. B.* Flower-de-luce, common iris or orrice: with blue flowers, whose arched segments are bearded with a yellowish matter, standing several on one stalk higher than the leaves. It is a native of the mountainous parts of Germany, common in our gardens, and flowers in June.

THE roots of this plant have, when fresh, a disagreeable smell, and an acrid nauseous taste. They are a strong irritating cathartic; in which intention, their expressed juice has been given in hydropic cases, from one or two drams to three or four ounces, diluted largely with watery or vinous liquors to prevent its inflaming the throat. The remarkable differences in the dose, as directed by different practical writers, appear to have proceeded from hence; that some employed the juice in its recent turbid state, loaded with the acrimonious cathartic matter of the root; others, such as had been depurated by settling, and which had deposited, along with the feculencies, a great share of the active parts. By gently inspissating the juice, it is rendered less violent in cathartic power, and less liable to irritate and inflame; but becomes at the same time too precarious in strength to be depended on: by inspissation to perfect dryness, its purgative virtue is almost, if not altogether, destroyed. The root itself loses also, in drying, its offensive smell, and its nauseous acrimony, and along with these its cathartic quality: in this state, it discovers a slight and not disagreeable pungency and bitterishness, accompanied with a kind of aromatic flavour, nearly of the same kind with that of the following species, but weaker and less grateful.

* The blueish expressed juice of the flowers changes on being inspissated, especially if a little limewater is added, to a fine green; and in this form is directed, in foreign pharmacopœias, for tinging some of the unctuous compositions called odoriferous or apoplectic balsams.

* The Juice is green as first expressed. 2. IRIS

2. IRIS *Pharm. Lond.* *Iris florentina Pharm. Edinb.* *Iris alba florentina C. B.* *Iris illyrica.* Florence orrice; supposed to be only a variety of the foregoing occasioned by difference of climate; distinguishable from it in our gardens, by the flowers being white, and the leaves inclining more to blueish. The shops are supplied from Italy with dried roots superiour to those of our own growth; in oblong flattish pieces freed from the fibres and brownish bark, externally of a whitish colour with brownish specks, internally inclining to yellowish, easily reducible into a farinaceous yellowish white powder.

THIS root, in its recent state, does not seem to differ much from the preceding; being, like it, nauseous, acrimonious, and purgative, though not quite in so great a degree; and losing these qualities on being dried. The dry root, as met with in the shops, has an unctuous, bitterish, pungent taste, not very strong, but very durable in the mouth: and a light agreeable smell, approaching to that of violets. It is used in perfumes; in sternutatory powders; for communicating a grateful flavour (somewhat like that of raspberries) to wines and to spirits; and medicinally in disorders of the breast, for attenuating viscid phlegm, and promoting expectoration. Its smell and taste are extracted both by water and rectified spirit, most perfectly by the latter. In distillation, it gives over with water the whole of its peculiar flavour, its bitterness and a slight acrimony remaining in the inspissated extract: the distilled water smells very agreeably, but no essential oil is obtained though some pounds of the root be subjected to the operation at once. Rectified spirit brings over a part of its violet smell, but little or nothing of its warmth or taste: the inspissated extract is a pungent, bitterish, balsamic mass, glowing in the mouth like pepper; its quantity is about one fifteenth of the weight of the root.

3. GLADIOLUS LUTEUS *Pharm. Lond.* *Iris palustris lutea Ger.*
Acorus vulgaris Pharm. Augustan. *Acorus adulterinus C. B.* *Pseu-*
doacorum Matth. *Pseudoiris Dod.* *Butomon Clus.* Yellow
 water-flag, bastard acorus, sedge: with reddish roots, yellow un-
 bearded flowers standing several on one stalk, and the middle ribs of
 the leaves prominent. It is common by the sides of rivers and marshes,
 and flowers in June.

THE roots of this species are, when fresh, rather more acrid, and more strongly cathartic, than either of the preceding. The expressed juice, given to the quantity of eighty drops every hour or two, and occasionally increased, has, in some instances, produced plentiful evacuations, after jalap, gamboge, and mercurials had failed (a): but however successful it may have sometimes been as a drastic purgative, it is accompanied, like the other irises, with a capital inconvenience; its strength being so precarious, or so variable in different states, that it is by no means fit for general use. The juice, both of this and of the other kinds of iris, has been employed also externally for clearing the skin of serpiginous eruptions; and sometimes snuffed up the nose as a strong errhine: even for these purposes it is to be used with caution, being subject, by its great acrimony, to inflame or vesicate the parts.

The dry roots are much weaker and less agreeable than those of either of the preceding species of iris. They have scarcely any smell; and when chewed in substance, discover very little taste. An extract made from them by rectified spirit is likewise weaker and more nauseous, though its quantity is less, amounting only to one twenty-fourth of the weight of the root: it has nothing of the flavour or aromatic warmth of those of the other two, but an ungrateful austere bitterishness and a kind of saline pungency. It is the root in this dry state that the writers on medicines mean, when they speak of the yellow water flag root as being astringent and stomachic: it does not, however, appear to have any great claim to these virtues, and among us is no otherwise made use of than as an ingredient in the officinal arum powder, (see page 107) in which it is said to be employed only in deference to the contriver of the composition.

Ț U Ț U B Æ.

Ț U Ț U B Æ *Ph. Paris.* *Ț ujubæ majores oblongæ C. B.* *Zizyphus Dod.* JUJUBES: a half-dried fruit, of the plum kind, about the size and shape of an olive: consisting of a pretty thick reddish-yellow skin, a whitish fungous pulp, and a wrinkled stone pointed at both ends: the produce of a prickly tree, with three-ribbed leaves, and herbaceous or yellowish flowers, sometimes found wild, and commonly cultivated, in the southern parts of Europe.

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(a) Mr. Ramsay, *Edinburgh medical essays*, vol. V. art. 8.

This fruit has an agreeable sweet taste; and in those countries where it is common, makes an article of food in its recent state, and of medicine when half dried; decoctions of it being used, like other glutinous sweets, as incrassants, and demulcents in defluxions on the breast. Among us, it has long stood neglected, and is now become a stranger to the shops; the tree not producing fruit in this climate; and that, which we received from abroad, being commonly mouldy or carious.

ANOTHER fruit of the same kind, of a dark blackish hue, furnished with an ash-coloured cup at the bottom, from which it easily parts, is sometimes brought from the eastern countries, under the names of *sebesten*, *myxa*, or *myxaria*. It is more glutinous than the jujube; to which it has been commonly joined in pectoral decoctions; and along with which it is now discarded by the colleges both of London and Edinburgh.

J U N C U S O D O R A T U S.

JUNCUS ODORATUS Pharm. Lond. *Juncus odoratus sive aromaticus C. B.* *Schænanthus*, *Squinanthum*, *fœnum camelorum*, & *palea de mecha Quibusdam*. SWEET RUSH OR CAMEL'S HAY: a dried herb, of the grass kind, brought from Turkey and Arabia, in bundles about a foot long: consisting of smooth stalks, in shape and colour somewhat resembling barley straws, full of a fungous pith like those of rushes; and leaves like those of wheat surrounding the stalk with several coats: towards the tops of the stalks are sometimes found short woolly spikes of imperfect red flowers, set in double rows like those of darnel.

THE sweet rush, when in perfection, has an agreeable smell, and a warm, bitterish, not unpleasant taste. Distilled with water, it yields a small quantity of a yellowish, fragrant, and very pungent essential oil: the remaining decoction, thus divested of the aromatic matter of the plant, proves unpleasantly roughish, bitterish, and somewhat acrid. A tincture made in rectified spirit, in colour greenish yellow, yields, on being inspissated, a tolerably grateful, bitterish, aromatic extract. This plant, formerly employed as a warm stomachic and deobstruent, appears from the above experiments to be of no inconsiderable activity; but in this country, more common aromatic vegetables

vegetables have now superseded its use. It is kept in the shops only as an ingredient in the mithridate and theriaca; and the college of Edinburgh, having at last expunged those compositions, have dropt the *juncus odoratus*.

J U N I P E R U S .

JUNIPERUS: *juniperus vulgaris fruticosa C. B.* **JUNIPER:** an evergreen tree or bush, clothed with slender narrow stiff sharp leaves, like prickles, which stand generally three together: the flowers are a kind of small scaly catkins, growing on one plant; the fruit, round berries, growing on a different one, containing, each, three oblong irregular seeds. It is common on heaths in different parts of Europe; and is found, at all seasons of the year, both with unripe green or red berries, and with ripe blueish black ones.

The **BERRIES**, *baccæ juniperi Pharm. Lond. & Edinb.* are brought chiefly from Holland and Italy: they should be chosen fresh, not much shrivelled, and free from mouldiness, which they are very subject to contract in keeping. They have a moderately strong not disagreeable smell, and a warm pungent sweetish taste, which, if they are long chewed or previously well bruised, is followed by a considerable bitterness. The sweetness appears to reside in the juice or soft pulpy part of the berry; the bitterness, in the seeds; and the aromatic flavour, in oily vesicles, spread throughout the substance both of the pulp and of the seeds, and distinguishable even by the eye. The fresh berries yield, on expression, a rich, sweet, honey-like aromatic juice: if previously powdered, so as to thoroughly break the seeds, (which is not done without difficulty) the juice proves tart and bitter. The same differences are observable also in tinctures and infusions made from the dry berries, according as the berry is taken entire or thoroughly bruised. They give out nearly all their virtue both to water and rectified spirit, and tinge the former of a brownish yellow, the latter of a bright orange colour. Distilled with water, they yield a yellowish essential oil*, very subtile and pungent, in smell greatly resembling the berries, in quantity (if they have been sufficiently bruised) about one ounce from forty: the remaining decoction, inspissated to the consistence of a rob or extract, has a pleasant, balsamic, sweet taste, with a greater or less degree of bitterness. A part of the flavour of the berries arises also in distillation with rectified spirit: the inspissated tincture consists of two distinct

* Ol. e baccia juniperi
Ph. L. & E.

T t 2

substances;

substances; one oily and sweet; the other tenacious, resinous, and aromatic.

These berries are useful carminatives, detergents, and diuretics. The distilled oil is a very stimulating diuretic, approaching in quality to that of turpentine, like which, it impregnates the urine with a violet smell: the spirituous extract gives the same kind of smell; as does likewise the berry in substance, in a lower degree; but the watery extract or rob, as being divested of the oil, has no such effect. This last may be used with advantage in cases where the more stimulating preparations would be improper; as in catarrhs, debilities of the stomach and intestines, and difficulties of the urinary excretions, in persons of an advanced age. Among the aromatics that have been tried in composition with juniper berries, sweet fennel seeds and caraway seeds seem the best adapted to improve their flavour: a cordial water is prepared in the shops by drawing off a gallon of proof spirit from a

*Aq. juniperi
comp. Ph. L.

pound of the berries and an ounce and a half of each of the seeds*. The water is strongly impregnated with the volatile virtue of the berry; to which the more fixt ones may in many cases be usefully superadded, by mixing with it a proper quantity of the rob.

The wood, *lignum juniperinum Pharm. Edinb.* *cedrinum lignum Pharm. Paris.* has been recommended as a sudorific, and by some accounted similar to guaiacum or saffrafras, to either of which it is greatly inferiour. It has a weak not unpleasant smell, and very little taste: decoctions and extracts, made from it with water, are disagreeably bitterish, subastringent, and balsamic: the spirituous tinctures are weaker than the watery, and yield, on being inspissated, an almost insipid resin. The quantity of watery extract, according to Cartheuser's experiments, is about one twelfth the weight of the wood; of spirituous extract, one eighth.

In the warmer climates, particularly on the coasts of Africa, there exudes, from a larger species of juniper, a resinous juice, which concretes into semipellucid pale yellowish tears or glebes, resembling mastich but larger; the *sandaracha* of the Arabians, and *gummi juniperinum* of the shops (*Ph. Edinb.*) called by some, from the use to which it has been principally applied, *vernix*. This resin has a light agreeable smell, and no considerable taste: it dissolves in rectified spirit, and in oils both expressed and distilled, but gives out little or nothing to watery liquors, and thus discovers that it is nearly a pure resin. It is supposed to be similar in quality, as in appearance, to

maſtich; and has been ſometimes given internally, againſt hemorrhagies, old fluxes, and ulcerations; but principally employed externally in corroborant, nervine, traumatic applications. Among us, it is ſcarcely ever made uſe of for any medicinal purpoſes; other refinous ſubſtances, more common in the ſhops, being apparently ſuperiour to it.

K A L I.

KALI Pharm. Edinb. *Kali majus cochleato ſemine C. B.* *Sal-ſola quibusdam.* SNAIL SEEDED GLASSWORT OR SALTWORT: a plant with ſpreading, reddiſh, pretty thick branches; oblong, narrow, pointed, fleſhy leaves like thoſe of the houſeleeks; and imperfect flowers in the boſoms of the leaves, followed each by one ſeed ſpirally curled and incloſed in the cup. It is annual, and grows wild on the ſea coaſts in the ſouthern parts of Europe, particularly of the Mediterranean.

THIS herb is very juicy, in taſte bitteriſh and remarkably ſaline. The expreſſed juice, and infuſions or decoctions of the leaves, are ſaid to be powerfully aperient and diuretic, and in this intention have by ſome been greatly recommended in hydropic caſes: half a dram of the juice is reckoned a ſufficient doſe. But the kali is principally regarded, on account of its yielding copiouſly, when burnt, the fixt alkaline ſalt called *ſoda* or *ſoude* (ſee *ſales alkalini*): an impure ſoda is prepared from it about Montpelier, where the plant is ſaid to be cultivated for this uſe in the ſalt marſhes; and a purer kind at Alicant in Spain from a ſomewhat different ſpecies of kali (*a*). The ſalt called *kelp*, prepared among ourſelves from different marine plants, contains an alkali of the ſame kind but more impure.

The ſoda is much milder in taſte than the common vegetable alkalis, and is in ſeveral other reſpects alſo very conſiderably different from them, being of the ſame nature with the mineral alkali or baſis of ſea ſalt (ſee *natron*). It promiſes to be an uſeful article of the materia medica, and now begins to be introduced into practice in this country, as it has long been among the French.

(*a*) *Kali hispanicum ſupinum annuum ſedi foliis brevibus, Mem. de l'acad. des ſcienc. de Paris, pour l'ann. 1719. & Pharm. Pariſ. p. lxiv.*

K E R M E S.

KERMES Pharm. Lond. Cbermes five kermes Pharm. Edinb.

Granum tinctorium & coccus baphica quibusdam. KERMES: round reddish-brown grains, about the size of peas; found in Spain, Italy, and the southern parts of France, adhering to the branches of the scarlet oak. These grains appear, when fresh, full of minute reddish ova or animalcules, of which they are the nidus, and which in long keeping change to a brownish red powdery substance. They are cured by sprinkling with vinegar before exsiccation: this prevents the exclusion of the ova, and kills such of the animals as are already hatched; which would otherwise become winged insects, and leave the grain an empty husk.

* Syrup. kermesinus P. E.

† Confectio alkermes P. L.

FRESH kermes yields upon expression a red juice, of a light pleasant smell, and a bitterish, subastringent, somewhat pungent taste: this juice, or a syrup made from it*, are brought from the south of France, and sometimes made use of as mild restringents and corroborants. An elegant cordial confection, for these intentions, is prepared in the shops, by dissolving in the heat of a water bath, six ounces of fine sugar in six ounces by measure of damask rose water, then adding three pounds of the juice of kermes warmed and strained, and after the whole has grown cold, mixing in half a scruple of oil of cinnamon†: this confection is taken from a scruple to a dram or more; either by itself, or in juleps, with which it mingles uniformly without injuring their transparency. The dried grains, if they have not been too long kept, give out, both to water and to rectified spirit, the same deep red colour, and nearly the same kind of smell and taste, with those of the expressed juice. The watery tinctures lose nearly all their smell in evaporation: the spirituous retain nearly the whole of their smell as well as of their taste. The inspissated extracts are considerably bitter, astringent, and of a kind of mild balsamic pungency: the spirituous is stronger and in somewhat smaller quantity than the watery, but the difference in strength is more considerable than that of the quantity, spirit seeming to extract the active matter more completely than water.

L A B D A N U M.

LABDANUM.

LABDANUM Pharm. Lond. & Edinb. Ladanum. LAB-

DANUM: a resinous juice, exuding upon the leaves of a small shrub, *cistus ladanifera cretica flore purpureo Tourn.* which grows plentifully in Candy and some of the other islands of the Archipelago. It is collected, by lightly brushing the shrub, in the summer heats, with a kind of rake having several straps or thongs of leather fixed to it instead of teeth (*a*): the unctuous juice adheres to the thongs, and is afterwards scraped off with knives. The shrub is said to be very plentiful also in Spain (*b*), but it does not appear that any labdanum is brought from thence.

Two sorts of labdanum are met with in the shops. The best, which is very rare, is in dark coloured black masses, of the consistence of a soft plaster, growing still softer on being handled: the other is in long rolls coiled up, much harder than the preceding, and not so dark. The first has commonly a small, and the last a very large admixture of fine sand, which, in the labdanum examined by the French academy, amounted to three fourths of the mass. It is scarcely indeed to be collected pure, independently of designed abuses; the dust, blown on the plant by winds from the loose sands among which it grows, being retained by the tenacious juice.

LABDANUM has been sometimes exhibited as a resinous corroborant and restringent, but principally employed in external applications and perfumes: the soft kind makes an useful ingredient in the cephalic and stomachic plasters of the shops. This sort has a very agreeable smell, and a lightly pungent bitterish taste: the hard is much weaker, and the common means of purifying these kinds of substances, though they separate the sandy matter mixed with it, render it weaker still. Rectified spirit of wine dissolves nearly the whole of the pure labdanum into a gold-coloured liquor: on inspissating the filtered solution, the finer part of the labdanum rises with the spirit, and the remaining resin proves both weaker and less agreeable than the juice at first. On infusing the labdanum in water, it impregnates the liquor considerably with its smell and taste: in distillation with water, there comes over a fragrant essential oil; and there remains in the still a brittle almost insipid resin, with a pale coloured

(*a*) Belon, (*Bellonius*) *Observations des choses memorables trouvezes in Grece, &c.* l. i. c. vii.
 (*b*) Clusius, *Rariorum stirpium per Hispanias observatarum historia*, l. i. c. 5.

coloured liquor, which, inspissated, yields a weakly bitterish extract. The specific flavour of this juice seems to be sooner dissipated by heat than that of almost any of the other officinal resins or gummy resins.

L A C.

LAC: lac asininum, caprinum, muliebre, ovillum, vaccinum Pb. Ed.
 MILK: asses, goats, human, sheeps, and cows milk: a fluid prepared and secreted in the bodies of animals, but not completely elaborated into an animal nature. On a chemical analysis, it yields the same general principles with substances of the vegetable kingdom.

MILK is a mild nutritious balsamic fluid; when taken freely, an excellent obtunder of acrid and deleterious substances, and of overdoses of the stronger cathartics and emetics; one of the best restoratives in emaciated habits; a palliative, whilst its use is continued for the only aliment, in gouty cases not inveterate, and in some rheumatic pains; the medicine principally depended on in hectic and consumptions; prejudicial in acute diseases, bilious fluxes and dysenteries, swellings of the præcordia, and obstructions of the abdominal viscera.

It sometimes happens, that when the body stands most in need of this medicinal nutriment, the intestines are too slippery to retain it. In such cases, it may be advantageously boiled with gentle astringents, as granate peel, balauftines, red roses; about an equal quantity of water being added, by a little at a time as the milk boils up, so as that all the water may be wasted in the boiling (a).

It may be presumed, that milk thickens in a sound stomach, before its digestion, nearly in the same manner as it is thickened by the runnet or infusion of the stomach of a calf; and that, where the gastric juices are too inert to produce this change, or so acid as to produce it in too great a degree and to separate a firm curd from the serous part; the milk will be difficult of digestion. Debilities of the stomach are endeavoured to be corrected by the medication above mentioned, or by the interposition of proper stomachics; acidities, by the absorbent earths. The absorbent earths, however, are in this intention commonly insufficient, unless assisted by stomachics; for as they absorb only the acid already generated, and have no power of remedying the weakness or indisposition which tends to produce
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(a) Mead, *monita & præcepta medica*, p. 49.

more, they afford only a temporary and palliative relief: and indeed it may be questioned, whether they are capable of so far destroying the force, even of the acid they are mixed with, as to prevent its curdling milk in the stomach.

Milk is curdled by all acids; by most, perhaps by all, of the combinations of acids with earthy and metallic bodies; by alkaline salts both fixt and volatile; by some vegetables that have no acidity or alkaline quality, as mustard seed; and by strong vinous spirits. The concentrated acids produce a strong curd immediately on mixture: most of the other substances scarcely have their full effect without a boiling heat. The coagulum made by acids falls to the bottom of the serum: that made with alkalies swims on the surface, forming, especially if the alkali is of the volatile kind; a thick coriaceous skin. The serum, with alkalies, proves of a greenish hue: that made with the other substances is nearly of the same appearance with the whey which separates spontaneously.

The perfect neutral salts, or those compounded of an acid and an alkali, produce no coagulation, either with or without heat: some of them, particularly nitre and sal ammoniac, make the milk less coagulable, and, if added to the boiling mixture when already curdled by vegetable acids, render nearly the whole fluid again (*a*). Sugar retards the spontaneous coagulation, and impedes likewise the separation of the creme from milk, and of the butyraceous part from creme. Limewater and animal gall redissolve the coagula.

MILK, distilled with a gentle warmth, gives over a colourless and tasteless liquor, which seems to be mere water, but is found to differ from the simple element in growing sour upon long keeping. The residuum is a grumous, unctuous, yellowish or brownish mass; which, on being boiled in water, partially dissolves. This solution contains the sweet substance of the milk, freed from the grosser unctuous caseous matter; and proves an elegant whey, more agreeable in taste, and which keeps better, than those prepared in the common manner. These sorts of liquors are very useful, cooling, diluent, aperients and detergents; in hypochondriacal complaints, impurities of the humours, acute diseases, &c. They promote the natural excretions in general, and remarkably increase the action of the purgative sweets, casia and manna. The saline matter of these liquors may be obtained in a pure solid crystalline state, by clarifying
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(*a*) Willis, *Pharmaceutice rationalis*, pars i. sect. iv. cap. i §. 8.

the whey with whites of eggs, and, after due evaporation, setting it to shoot, in the same manner as other saline solutions*.

* Saccharum
lactis *P. Paris.*

Thus milk is resolved into a watery fluid; a gross substance indissoluble in water, which appears to contain the directly nutrimental part; and a sweet aperient salt. The milks of different animals differ remarkably in the proportions of these ingredients, and in the quality of the salt.

Breast milk and asses milk are very nearly alike: twelve ounces leave on evaporation, according to Hoffmann's experiments, eight drams of solid matter, of which boiling water dissolves six drams: the solution, inspissated or crystallized, yields a salt of a rich honey-like or saccharine sweetness. The same quantity of cows milk leaves thirteen drams of solid matter, from which water extracts only about a dram and a half: the salt obtained from this solution is much less sweet, when purified is almost insipid, dissolves very difficultly, and seems to have little claim to the pectoral and antiphthifical virtues vulgarly ascribed to it. All the other milks that have been examined are of an intermediate nature between the two first and the last: goats milk approaches more to that of the ass than sheeps milk does, though both of them come nearer to that of the cow than of the ass.

There are considerable differences in the milk of one and the same animal according to its different aliment. Dioscorides relates, that the milk of goats, which fed on the scammony plant and spurge, proved cathartic; and instances are given, in the *Acta Hafniensia*, of bitter milk from the animal having eaten wormwood. It is a common observation, that cathartics, spirituous liquors, &c. taken by a nurse, affect the child; that the milk of animals, feeding on green herbs, is more dilute than when they are fed on dry ones; and that many of the common plants, which are eaten by cattle, give a particular taste to their milk. Hoffmann is of opinion, that, on this principle, milk may be usefully impregnated with the virtues of different medicinal substances.

L A C C A.

LACCA *Pb. Edinb.* LAC, STICK-LAC, improperly called GUM-LAC: a concrete brittle substance, of a dark red colour; brought from the East Indies incrustated on pieces of sticks; internally divided

divided into several cells; said to be the resinous juice of certain trees, collected by winged red insects of the ant kind, impregnated with the tinging matter of the insects, and by them deposited either on the branches of the trees or on sticks fastened in the earth for that purpose. In the cells are often observed small red bodies, which appear to be the young insects (a).

THE tinging red animal matter of the stick-lac dissolves both in water and in rectified spirit, and appears to be of the same general nature with that of cochineal; like which it is made dull by alkalies, and brighter by acids, and turned to a scarlet by solution of tin. If the lac be broken in small pieces, or grains, and infused in warm water, till it ceases to give any tincture to the liquor; the remainder appears of a transparent yellowish or brownish colour*, and, on raising the heat so as to make the water boil, melts and rises to the surface†. The grains, or the plates formed from them by liquefaction, thus robbed of greatest part of the animal tincture, seem to be of an intermediate nature between that of wax and resins, or to partake of the nature of both: they crumble on chewing, and do not soften or stick together again: laid on a red hot iron, they instantly catch fire, and quickly burn off, with a strong and not disagreeable smell: distilled, they yield, like wax, an acid spirit and a butyraceous oil: alkaline lixivia, and volatile alkaline spirits, dissolve them into a purplish liquor: they dissolve also, by the assistance of heat, in rectified spirit of wine, and communicate to it a yellowish or brownish red colour, an agreeable smell, and a bitterish, subastrigent, not unpleasant taste. The lac in substance, whether entire, or freed from so much of its colouring matter as boiling water is capable of extracting, has no manifest taste or smell.

* Seed lac of the shops.

† Shell lac of the shops.

A spirituous tincture of stick lac has been sometimes given as a mild restraining and corroborant, in female weaknesses, and in rheumatic and scorbutic disorders. But the principal medicinal use of this concrete is as a topical corroborant and antiseptic, in laxities and scorbutic bleedings and exulcerations of the gums: some employ for this purpose a tincture of the lac in alum water; others, a tincture made in vinous spirits impregnated with the pungent antiscorbutics: the college of Edinburgh directs an ounce of the powdered lac, with half an ounce of powdered myrrh, to be digested in a sand heat, for six days, in a pint and a half of spirit of scurvygrass*.

* Tinct. laccæ Pharm. Edinb.

U u 2

L A C T U C A.

(a) See the *Memoires de l'acad. roy. des sciences de Paris, pour l'ann. 1714.*

L A C T U C A .

LETTUCE: a plant with slender but firm stalks, which yield, as do the leaves, a milky juice on being wounded: the flower consists of a number of flat flosculi set in a small scaly cup, followed by short flat seeds, which are pointed at both ends and winged with down.

1. LACTUCA *Pharm. Edinb.* *Lactuca sativa* C. B. Garden lettuce: with oblong, broad, rounded, uncut leaves; and numerous flowers standing on long pedicles in the form of an umbel. It is annual, and raised at different times of the year in culinary gardens.

THE young leaves of the several species or varieties of garden lettuce are emollient, cooling, in some small degree laxative and aperient, easy of digestion, but of little nourishment; salubrious in hot, bilious, indispersions; less proper in cold phlegmatic temperaments. In some cases, they tend to procure sleep; not as being possessed of any strictly hypnotic power; but by virtue of their refrigerating and demulcent quality. When the plant is grown up, it proves considerably bitter, though less so than most of the others of the lactescent kind, to which it is similar in its general virtues.

The seeds, which in the common lettuce are of a grey or ash colour, in the cabbage lettuce black, unite with water, by trituration, into an emulsion or milky liquor, which has nothing of the aperient bitterness of the milky juice of the leaves, and is nearly similar to the emulsions made with almonds. The lettuce emulsions have been supposed to be more refrigerant than those of the almond, and hence have sometimes been preferred in heat of urine and other disorders from acrimony or irritation.

2. LACTUCA SILVESTRIS *Medicorum.* *Lactuca silvestris* & *scariola Pharm Paris.* *Lactuca silvestris costa spinosa* C. B. Wild lettuce: with the leaves cut almost to the rib into indented triangular segments; and the stalks and the ribs prickly. It grows wild in hedges, and flowers in June.

This species is considerably bitterer than the garden lettuces, and more aperient and laxative. It is nearly similar, in virtue as in taste, to endive unblanched.

3. LACTUCA GRAVEOLENS: *lactuca silvestris odore viroso* C. B. Strong scented lettuce, by some erroneously supposed to be the wild lettuce

lettuce of medical writers: with the lower leaves entire, the upper jagged, the stalks and leaves prickly. It is found in hedges and by the sides of ditches, and flowers in June.

THIS species differs greatly in quality from the two preceding. It smells strongly of opium, and appears to partake, in no small degree, of the virtues (a) of that narcotic drug. The opiate power of the lettuce, like that of the poppy-heads, resides in its milky juice, but whether the milk of the lettuce is of equal safety, or its virtue precisely of the same kind, with that of the poppy, is not known.

L A M I U M.

LAMIUM ALBUM Pharm. Lond. & Edinb. *Lamium album non fœtens folio oblongo* C. B. *Galeopsis, & archangelica, & urtica mortua sive alba* Quibusdam.

WHITE ARCHANGEL OR DEAD NETTLE: a plant with square stalks; oblong indented acuminate leaves, like those of the stinging nettle, set in pairs at the joints; and clusters, in the bosoms of the leaves, of white labiated flowers, whose upper lip is entire, arched, and hairy, the lower lip cloven. It is perennial, common in hedges and about the borders of fields, and found in flower from April to near the end of summer.

INFUSIONS of this plant, drank as tea, are said to be beneficial in uterine hemorrhagies and the fluor albus: the flowers are supposed to be more efficacious than the leaves, and hence those only are directed by the college of London. The sensible qualities, either of one or the other, afford little foundation to expect from them any considerable virtues. The flowers have only a slight mucilaginous sweetishness, without any remarkable smell or flavour: the leaves have a weak not unpleasant smell, and a small degree of roughness, which may entitle them to a place among the milder corroborants.

L A M P S A N A.

LAMP SAN A, *Lapsana*, *Napium*, *Papillaris herba*. *Soncho affinis lampšana domestica* C. B. DOCK CRESSES; NIPPLEWORT: a roughish plant; bearing small yellow flosculous flowers, set in form of an umbel on the top of the stalk, followed by little crooked naked seeds:

(a) Ray, *Historia plantarum*, i, 222. Boerhaave, *Hist. hort. lugd. bat.* p. 127.

seeds: the lower leaves are deeply cut, towards the pedicle, into generally two or four opposite sections; the upper are oblong, narrow, undivided, and have no pedicles. It grows wild by road sides, and flowers greatest part of the summer.

THIS is one of the bitter lactescent plants, nearly similar in virtue to dandelion, endive, cichory, and the others of that class. It has been employed chiefly for external purposes, against wounds and ulcerations, particularly of the nipples, whence its names *nipplewort* and *papillaris*.

L A P A T H U M.

DOCK: a perennial plant bearing numerous imperfect flowers set in double cups; the outermost of which consists of three small green leaves, the inner of the three larger reddish ones which become a covering to a glossy triangular seed.

I. OXYLAPATHUM *Pharm. Edinb.* *Lapathum acutum folio plano C. B.* Sharp-pointed wild dock: with long narrow acuminate leaves not curled about the edges; and the seed-covers indented and marked with little tubercles. The roots are of a brownish colour on the outside, and of a yellowish within which grows deeper in drying.

THE roots of the sharp-pointed dock have a bitterish astringent taste; and no remarkable smell: the roots of the other common wild docks are nearly of the same quality, equally discover their astringent matter both to the taste and by striking an inky blackness with solution of chalybeate vitriol, and have been often substituted in our markets to those of the sharp-pointed kind; which last are generally, and, so far as can be judged from their taste, justly, accounted the most efficacious. They are supposed to have an aperient and laxative, as well as an astringent and corroborating virtue; approaching in this respect to rhubarb, but differing widely in degree, their stypticity being greater, and their purgative quality, (if really they have any purgative quality at all) far less. They stand recommended in habitual costiveness, obstructions of the viscera, scorbutic and cutaneous maladies: in which last intention, fomentations, cataplasms, or unguents of the roots have been commonly joined to their internal use: in many cases, the external application alone is said to be sufficient. Their active matter is taken up both by water and rectified spirit, and, on
inspissating

inspissating the tinctures, remains in the extracts; both the watery and spirituous extracts are considerably bitter and very austere. A decoction of half an ounce or an ounce of the fresh roots, or of a dram or two of the dry roots, is commonly directed for a dose.

2. HYDROLAPATHUM *sive herba britannica Pharm. Edinb.* *Lapathum aquaticum folio cubitali C. B.* Great wild water dock: with very large leaves, two or three feet long; the seed-covers not indented and having no tubercles. The roots are externally blackish, internally white with a faint reddish tinge, which, in drying, changes in some parts to a yellowish: the internal part of the fresh-root, exposed to the air, or of the dry root moistened, soon changes superficially to a deep yellow or brown.

THE roots of the water dock strike a black colour with solution of chalybeate vitriol, like those of the preceding species, but have a much stronger and more acerb taste; which is diffused equally, so far as can be judged, through the whole substance of the root. They give out their active matter both to water and rectified spirit, and tinge both menstrua of a pale yellowish or reddish brown colour, though in chewing they render the saliva only milky.

The *herba britannica* of the ancients, celebrated as an antiscorbutic, and of which the knowledge was long lost, was proved by Muntingius, towards the end of last century, to be no other than this great water dock. Muntingius endeavours to prove also, that its name *britannica* was not derived from that of our island, but from Teutonic words expressing its power of fastening loose teeth, or of curing the disease which makes them loose. Later experience has shewn, that it is a medicine of very considerable efficacy, both externally in lotions against putrid spongy gums and ulcerations, and as an internal antiscorbutic: Boerhaave assures us, that in these cases he has known many instances of its happy effects. It is supposed to be of service also in cutaneous defecations different from the true scurvy, in rheumatic pains, and in chronical disorders proceeding from obstructions of the viscera.

3. RHABARBARUM MONACHORUM *Pharm. Paris.* *Lapathum hortense latifolium C. B.* *Hippolapathum; Patientia.* Monks rhubarb, garden patience: with large, broad, acuminate leaves; reddish, branched stalks; the leaves that cover the seeds unindented, and a tubercle

tubercle on one of them: the root is of a yellow colour, with red veins, approaching in appearance to rhubarb.

THIS root is supposed to possess the virtues of rhubarb, in an inferior degree. It is obviously more astringent than rhubarb; but comes very far short of it in purgative virtue, though given, as usually directed, in double its dose; nauseating the stomach, without producing any considerable evacuation. It communicates a deep yellow tincture both to water and spirit.

L A V E N D U L A.

LAVENDER: a shrubby plant, with its leaves set in pairs, the stalks square when young, and round when grown woody; producing, on the tops of the branches, naked spikes of blue labiated flowers, of which the upper lip is erect and cloven, the lower divided into three roundish segments.

I. LAVENDULA *Pharm. Lond. & Edinb.* *Lavendula angustifolia* C. B. *Pseudonardus quæ lavendula vulgo* J. B. *Lavendula minor sive spica* Ger. & Park. Lavender: with oblong, very narrow, somewhat hoary, undivided leaves; a native of dry gravelly soils in the southern parts of Europe, common in our gardens, and flowering in July.

THE flowers of lavender have a fragrant smell, to most people agreeable, and a bitterish, warm, somewhat pungent taste: the leaves are weaker and less grateful. They are often employed as a perfume; and medicinally, as mild stimulants and corroborants, in vertiges, palsies, tremors, and other debilities of the nervous system, both internally and externally.

* Conserva
florum laven-
dula Ph. Lond.

The flowers are sometimes taken in the form of conserve; into which they are reduced, by beating them, while fresh, with thrice their weight of double refined sugar*. Their fragrance is less injured by beating or bruising them than most of the other odoriferous flowers, but is nevertheless considerably diminished: the flavour of the leaves is of a much less destructible kind.

Water extracts by infusion nearly all the virtue both of the leaves and flowers. In distillation with water, the leaves yield a very small portion of essential oil; the flowers a much larger, amounting (in their

most perfect state, when they are ready to fall off spontaneously and the seeds begin to shew themselves) to about one ounce from sixty. The oil * is of a bright yellowish colour, a very pungent taste, and possesses, if carefully distilled, the fragrance of the lavender in perfection: it is given internally from one drop to five, and employed in external applications for stimulating paralytic limbs and for destroying cutaneous insects. The decoction, remaining after the distillation of the oil, is disagreeably bitterish and somewhat saline.

* Ol. essent.
florum laven-
dulæ
Ph. L. & Ed.

Rectified spirit extracts the virtue of lavender more completely than water. The spirit elevates also in distillation a considerable part of the odoriferous matter of the leaves, and greatest part of that of the flowers; leaving, in the inspissated extracts, a moderate pungency and bitterishness with very little smell. A spirit prepared by pouring a gallon of proof spirit on a pound and a half of the fresh gathered flowers, and drawing off five pints by the heat of a water bath †, is richly impregnated with the fragrance of the flowers. More compounded spirits of this kind, in which other aromatics are joined to the lavender, have been distinguished by the name of English or palsey drops: the college of London directs three pints of the simple spirit of lavender, and one pint of spirit of rosemary, to be digested on half an ounce of cinnamon, half an ounce of nutmegs, and three drams of red saunders as a colouring ingredient ‡: the college of Edinburgh orders a gallon and a half of rectified spirit of wine to be drawn over from three pounds of fresh lavender flowers, one pound of those of rosemary, and three ounces of lemon peel; and afterwards three ounces of cinnamon, one of cloves, one of cubebs, and two of red saunders, to be macerated for three days in the distilled spirit §. These preparations are taken internally, on sugar or in any convenient vehicle, from ten to an hundred drops, and used externally in embrocations, &c.

† Spirit. la-
vend. simp.
Pharm. Lond.

‡ Spirit. la-
vend. comp.
Pharm. Lond.

§ Spirit. laven-
dulæ comp.
Pharm. Edinb.

2. LAVENDULA LATIFOLIA C. B. *Lavendula major seu spica* Pharm. Paris. *Pseudonardus quæ vulgo spica* J. B. *Lavendula major sive vulgaris* Park. Broad lavender: with longer, broader, and hoarier leaves, and much larger spikes, though smaller flowers; common in the southern parts of Europe, but rare among us. The name spike is applied by foreign writers to this species, by some of ours to the first.

THE broad leaved lavender is stronger both in smell and taste than the narrow, and yields in distillation almost thrice as much essential oil,

oil, but the flavour both of the oil and of the plant itself, is much less grateful: the oil is likewise of a much darker colour, inclining to green. Watery and spirituous extracts, made from the two sorts of lavender, are very nearly alike; the difference seeming to reside only in the volatile parts.

L A U R O C E R A S U S.

LAUROCERASUS Pharm. Paris. Cerasus folio laurino C. B.

LAUREL, CHERRY-BAY: an evergreen tree or shrub, with large, thick, oblong leaves, pointed at both ends, and slightly indented: towards the tops of the branches come forth white pentapetalous flowers, followed by clusters of berries like cherries or damsons. It is cultivated in gardens, flowers in May, and ripens its fruit in August or September.

THE leaves of the laurocerasus have a bitter taste, accompanied with a flavour resembling that of the kernels of certain fruits, as those of black cherries, apricots, bitter almonds, &c. Like those kernels, they communicate an agreeable flavour both to watery and spirituous liquors, by distillation and by infusion; and like them also, they appear from some late trials to be poisonous. A distilled water, strongly impregnated with their flavour, given in the quantity of four ounces to a large mastiff dog, occasioned in a few minutes terrible convulsions, and within an hour put an end to his life: dogs have been killed also, in a few minutes, by smaller quantities, of the distilled water, of an infusion of the leaves in water, and of their expressed juice, taken into the stomach, or injected by the anus; and there are some instances of liquors flavoured with the distilled water being poisonous to human subjects. The dissections of dogs killed by this poison have shewn no other morbid appearances, or alterations, than such as may be reasonably supposed the immediate effect of the convulsions: when the distilled water, or the leaves in substance, were given in such small quantities as not to kill, and continued for some time, the pulse became quicker, and the blood more fluid, and of a more florid red colour (a).

The

(a) See Dr. Langrish's experiments on brutes, and No. 418 and 420 of the *philosophical transactions*.

The kernel of the fruit is of the same nature with the leaves. The pulpy part discovers no ill quality to the palate, is coveted by birds, and appears to be innocent.

L A U R U S.

LAURUS Ph. Lond. & Ed. *Laurus vulgaris* C. B. BAY: an evergreen tree or shrub, with oblong, stiff, smooth leaves, pointed at both ends; pale yellowish, monopetalous flowers, divided into four sections; and oblong dry berries, containing, under a thin black skin, a horny shell, within which are lodged two dark brownish seeds joined together. It is a native of the southern parts of Europe, and not uncommon in our gardens: it flowers in April and May, and ripens its berries in September. The shops have been commonly supplied with the berries from the Streights.

THE leaves of the bay have a light agreeable smell, and a weak aromatic roughish taste: in distillation with water, they yield a small quantity of a very fragrant essential oil: with rectified spirit they afford a moderately warm pungent extract. The berries are stronger both in smell and taste than the leaves, and yield a larger quantity of essential oil: they discover likewise a degree of unctuousity in the mouth, give out to the press an almost insipid fluid oil, and on being boiled in water a thicker butyraceous one*, of a yellowish green colour, impregnated with the flavour of the berry.

* Oleum
laurinum
Pharm. Edinb.

The leaves and berries of the bay are accounted stomachic, carminative, and uterine: in these intentions, infusions of the leaves are sometimes drank as tea; and the essential oil of the berries given, on sugar or dissolved by means of mucilages or in spirit of wine, from one to five or six drops. The principal use of these simples in the present practice is external: they are made ingredients in carminative glysters, warm cataplasms, and uterine baths; and the butyraceous oil of the berries serves as a basis for some nervine liniments, and mercurial and sulphureous unguents.

L A Z U L I L A P I S.

LAZULI LAPIS Pharm. Edinb. *Lapis cæruleus; lapis cyanus; cæruleum nativum.* LAPIS LAZULI: a compact, hard, ponderous fossil;
X x 2

fossil; of a deep blue colour, variegated commonly with gold or silver coloured points or veins; found in the mines of gold, silver, and copper, in the eastern countries and in some parts of Germany. The colour of the oriental is said to be permanent in the fire; that of the German perishable.

*Lapis lazuli
præparatus
Pharm. Edinb.

THIS stone, levigated into an impalpable powder, and freed from the grosser parts by washing with water*, has been given in doses of half a dram and a dram, and found to operate strongly, by stool and vomit. Some have recommended it in epilepsies and intermitting fevers: Dolæus tells us, that in this last disorder, the above doses, taken on the approach of a fit, with two or three spoonfuls of brandy, were with him a singular secret. The ancients supposed, that it evacuates chiefly what they called melancholic humours or adust black bile, probably, as Geoffroy suspects, on account of its tinging the feces black; a property, from which it may rather be presumed, that the mineral participates of iron. The constringing power, which is likewise ascribed to it, depends perhaps on this ingredient; and its purgative and emetic quality, together with its colour, upon copper, with which it appears to be largely impregnated, and which it readily discovers by giving a blue tincture (a) to volatile alkaline spirits. It has long been accounted a dangerous medicine, and is now rarely, or never ventured on.

L E N T I S C U S.

LENTISCUS Ph. Edinb. *Lentiscus vulgaris* C. B. *Lentiscus verus ex insula chio cortice & foliis fuscis* Commel. LENTISK or MASTICH TREE: an evergreen tree or shrub, with soft flexible branches hanging downwards, and small stiff leaves, pointed at both ends, set in pairs on a furrowed rib, which terminates in a soft prickle: some trees produce reddish imperfect flowers, in the bosoms of the leaves; others, clusters of black firm berries including a whitish kernel. It is a native of the southern parts of Europe, and bears the ordinary winters of our own climate: large plantations of it are cultivated in the island Chio, on account of the resinous juice obtained from incisions made in the trunk; see *masliche*. The wood is sometimes brought to us from Marseilles, in thick knotty pieces, covered,

(a) Hoffmann, in *notis ad Pteridium*, p. 628.

covered with a brownish bark, internally of a whitish or pale yellowish colour.

THIS wood is accounted a mild balsamic restringent: infusions and decoctions of it are greatly commended, in the German ephemerides, against catarrhs, nausææ, weakness of the stomach, and in general as a corroborant and an alterative or sweetener^(a). It may indeed be presumed, from its sensible qualities, to possess virtues of this kind, though in no very high degree. Its smell and taste are aromatic and resinous, but very weak: the small tough sprigs are stronger than the larger pieces, and the bark than the wood. It impregnates water with a red colour, and a light agreeable smell: to rectified spirit it gives a bright yellow tincture, and scarcely any smell. On gently distilling off the menstrua from the filtered liquors, the remaining extracts prove resinous, subastringent, and slightly pungent: the watery extract discovers more of the flavour of the wood, and is in taste rather stronger, though much larger in quantity, than the spirituous; the spirit covering or suppressing the smell, and not taking up enough of the gummy or mucilaginous matter to render the resin dissoluble in the mouth. According to Cartheuser's experiments, the watery extract amounts to one eighth the weight of the wood, the spirituous, to one twentieth or one sixteenth.

L E P I D I U M.

LEPIDIUM: a plant with undivided leaves, and small tetrapetalous white flowers on the tops of the stalks and branches, followed by little short pods, which are divided longitudinally into two cells full of minute seeds.

1. **LEPIDIUM Pharm. Edinb.** *Lepidium latifolium C. B.* *Piperitis; Raphanus silvestris Belgis & Gallis.* DITTANDER, PEPPERWORT, POOR-MANS-PEPPER: with oblong, broad, acuminate, serrated leaves. It is perennial, and found wild in some parts of England by the sides of rivers and in other moist shady places.

2. **IBERIS, seu cardamantica: iberis latiore folio C. B.** *Lepidium gramineo folio sive iberis Tourn.* Sciatica cresses: with long narrow leaves, the lower ones serrated, the upper entire. It is annual; a native.

(a) Wenck, *Acta nat. curios.* dec. iii. ann. ix & x. p. 254.

native of the southern parts of Europe; and raised in our gardens, as the preceding, for culinary use.

THESE herbs, when fresh, have a quick penetrating pungent taste; which is in great part dissipated or destroyed by exsiccation, retained in the expressed juice, extracted by water and by rectified spirit, and elevated by both menstrua in distillation or evaporation. They are recommended as antiseptics, stomachics, attenuants, and aperients; and appear to be of the same general nature with the *cochlearia*, *nasturtium*, and other acrid antiscorbutics. The second sort has been supposed particularly serviceable, externally, against the sciatica; whence its common English name.

L E V I S T I C U M.

LEVISTICUM seu ligusticum, Pharm. Edinb. *Ligusticum vulgare* C. B. *Angelica montana perennis paludarii folio* Tourn.

LOVAGE: a tall umbelliferous plant, with large leaves divided and subdivided into sections like those of smallage: the umbels stand on short pedicles, with several little leaves at the origin of each of the primary ones, and a few at the ramifications: the seeds are of a pale brown colour, oblong, plano-convex, marked with five longitudinal ridges: the root thick, fleshy, juicy, branched, of a dark brownish colour on the outside, and a whitish or pale yellowish within. It is a native of the southern parts of Europe, and raised with us in gardens: it is perennial, flowers in June, and ripens its seeds in August.

ALL the parts of this plant are of the aromatic kind; of a strong flavour, somewhat like that of angelica, but less agreeable; supposed particularly useful in female disorders. The leaves, which have been generally made choice of in this intention, have the most unpleasant smell, and suffer no great loss of it in keeping for some months; their taste is moderately warm, and acrid, and very durable in the mouth and throat. The root, whose smell is nearly of the same kind with that of the leaves, though more approaching to gratefulness, discovers to the taste a considerable sweetness joined to its mild aromatic warmth: an extract made from it by water retains little more than the sweet matter; the flavour exhaling in the inspissation, and impregnating the distilled fluid, from which, if the quantity of the root subjected to the operation be large, a small portion of essential oil separates: an extract made by rectified spirit retains the aromatic

part as well as the sweet, and proves moderately warm, but much less so than the extract of angelica: towards the end of the inspissation of the spirituous tincture, a thin unctuous matter appears upon the surface, in taste highly aromatic, and which seems to be the part that gives activity to the rest of the mass. The seeds of the plant have little of the sweetness of the roots, but are rather of more warmth and pungency, and of a more agreeable flavour.

L I C H E N.

LICHEN CINEREUS TERRESTRIS Pharm. Lond. & Edinb. *Lichen terrestris cinereus* Raii. ASHCOLOURED GROUND

LIVERWORT: a species of moss, consisting of roundish, pretty thick leaves, divided about the edges into obtuse segments, flat above, of a reticular texture underneath, fastened to the earth by small fibres; when in perfection, of an ash grey colour; by age turning darker coloured or reddish. It grows on commons and open heaths, spreads quickly on the ground, and is to be met with at all times of the year, but is supposed to be in its greatest vigour about the end of autumn.

THIS herb is said to be a warm diuretic. It is particularly celebrated as a preservative against the terrible consequences of the bite of a mad dog: an account of the remarkable efficacy, in this intention, of a powder composed of the dry leaves and black pepper, was communicated to the royal society by Mr. Dampier, and published in N^o 237 of the philosophical transactions. This powder was afterwards inserted, in the year 1721, into the London pharmacopœia, at the desire of Dr. Mead, who had large experience of its good effects, and who declares, that he had never known it to fail, where it had been used, with the assistance of cold bathing, before the hydrophobia began. He directs a dram and a half of the powder to be taken in the morning fasting, in half a pint of cows milk warm, for four mornings successively: previously to these four doses, the patient is to be bled nine or ten ounces; and after them, to be dipt in cold water every morning fasting for a month, and then dipt thrice a week for a fortnight longer^(a). The powder was originally composed of equal parts of the lichen and pepper: but this quantity of pepper rendering the medicine too hot, only one part is now used to two of the lichen*.

* Pulvis antilyphus
Ph. L. & Ed.

If

(a) *Mechanical account of poisons, essay iii,*

If cold bathing, bleeding, black pepper, and lichen, conjointly, be really of sufficient efficacy against the poison of the mad dog, it will not perhaps follow that any share of this efficacy belongs to the lichen: and indeed greater stress has been laid in general on the cold bath, than on this or the other parts of the prescription. The lichen does not promise to have any valuable medicinal powers: to the organs of taste or smell it discovers no activity: taken by itself, in the quantity above prescribed, it does not appear to have any sensible operation. Digested in rectified spirit, it tinges the menstruum of a deep yellowish green colour: on distilling off the spirit from the filtered tincture, the remaining grumous extract had very little taste, and amounted only to twenty-six grains from two ounces, or about one thirty-seventh of the weight of the lichen. A decoction of the herb in water, was brownish, and of a faint smell, somewhat like that of mushrooms: the extract, obtained by inspissating it, weighed one eighth of the lichen, and had some taste, but so little, that it is hard to say of what kind.

L I G N U M A L O E S.

LIGNUM ALOES, *Xyloaloes*, & *Agallochum*, *Pharm. Paris.* *Lignum Calambac.* AGALLOCHUM, CALAMBAC, or ALOES WOOD: a wood brought from China, and the inner parts of Tartary, in small pieces, compact and ponderous, of a yellowish or rusty brown colour, with black or purplish veins, sometimes purple with ash-coloured veins, and sometimes all over blackish. Of its origin, we have no very satisfactory account: most of the writers, to whom we are indebted for information about the productions of those countries, report, that it is the internal part of certain trees; that a large tree affords only a very small quantity of this valuable part; and that there are several different sorts of it, of which the best is never brought to us, being sold in China itself for twice or thrice its weight of silver.

THE best sort of agallochum wood brought into Europe, has a bitterish resinous taste, and a light aromatic smell. Set on fire, it seems to melt like wax, and emits, during the burning, an agreeable fragrance, which continues till the wood is wholly consumed. It is this fragrance in burning, which makes the wood precious in the eastern countries for fumigations, and which affords the surest criterion of its genuineness and goodness. As this wood is apparently very resinous, rectified spirit takes up more from it than watery menstrua: according

according to Cartheuser's experiments, an ounce yields with spirit three drams of extract, and with water only two. The watery decoction and extract are moderately bitter and subacid. The spirituous make less impression on the organs of taste, being less dissoluble in the mouth, or less miscible with the saliva: the pure resin, obtained by precipitation with water from the somewhat inspissated spirituous tincture, as directed by the faculty of Paris, * is still weaker in taste. Hoffmann observes, that in distillation with water, it yields an essential oil, of a whitish colour, of a thick consistence, of great fragrance, but in small quantity, not exceeding half an ounce from one hundred and sixty ounces of the wood: this oil, in which the more valuable parts of the agallochum are concentrated, he recommends, dissolved in spirit of wine, as one of the best cordials and corroborants, in weaknesses of the stomach and depressions of strength. (a)

* Resina ligni
aloes Pharm.
Paris.

In our shops, we rarely meet with any agallochum that answers the above characters. In its place have been substituted woods of an inferior kind, probably the *aspalathus*, *lignum aquilæ*, and *calambour* of authors; which are said to be woods of the nature of agallochum, but, when in their greatest perfection, far weaker.

L I G N U M C A M P E C H E N S E.

LIGNUM CAMPECHENSE Pharm. Edinb. Lignum
tinctile campechense Pharm. Lond. Lignum campechianum & lignum
indicum Mont. exot. Lignum campechianum, species quædam brasil Sloan.
Lignum sappan quibusdam. CAMPEACHY WOOD OR LOGWOOD:
the wood of a prickly pod-bearing tree, a native of Campeachy, in
the bay of Honduras; from whence the wood is brought over in
large compact hard logs of a red colour.

THIS wood, imported from America as a dying drug, has of late been introduced into medicine, and found to be a very useful restrin-
gent and corroborant, in diarrhœas, dysenteries, and other disorders
from a laxity of the solids. It has a sweetish sub-astringent taste,
and no remarkable smell: extracts made from it, by water and spirit,
have a great degree of sweetness, mixed with a mild grateful astring-
ency. It gives a deep purplish red tincture both to watery and spiri-
tuous menstrua; and frequently tinges the stools, and sometimes the
urine, of the same colour: of this the patient ought to be apprised,
Y y that

(a) Observ. physico-chym. lib. i. obs. 4. Not. ad Poterium, p. 487. De medicament. balsamic. § 15.

that he may not be alarmed by judging the colour of the discharge to be owing to blood.

Watery menstua readily extract part of the virtue of this wood, but are very difficultly made to take up the whole. To promote the extraction, the wood should previously be reduced into fine powder, which is to be strongly boiled in the water, in the proportion, for example, of a pound to a gallon, till half the liquor is wasted: the powder will still give a considerable impregnation to the same quantity of fresh water, and this repeatedly for four or five times or oftener: the extract * obtained by inspissating the decoctions, of a dark blackish colour in the mass, tinges water of a fine red, like that of the liquors before inspissation, but does not totally dissolve: it is given in doses of ten grains to a scruple and upwards. Rectified spirit takes up more from the logwood than watery menstua: some digest the powdered wood in as much spirit as will cover it to the height of about four inches, and afterwards boil it in water: the matters taken up by the two menstua may be united into one extract, by inspissating the watery decoction to the consistence of honey, and then gradually stirring in the spirituous tincture. †

*Extract. lign
campechensis.
Pharm. Lond.

† Pharm. Ed.

L I G N U M R H O D I U M.

LIGNUM RHODIUM Pharm. Lond. Rhodium lignum seu aspalathus odore roseo Pharm. Edinb. RHODIUM or ROSEWOOD: the wood or root of a tree of which we have no certain account; brought from the Canary islands, in long crooked pieces, full of knots, externally of a whitish colour, internally of a deep yellow, with a reddish cast. The largest, smoothest, straightest, heaviest, and deepest coloured pieces should be chosen; and the small, thin, pale, light ones rejected.

THIS wood has a slightly bitterish, somewhat pungent, balsamic taste, and a fragrant smell, especially when scraped or rubbed, resembling that of roses. Digested in rectified spirit, it gives out pretty readily the whole of its active matter, and tinges the menstruum of a reddish yellow colour: on committing to distillation the filtered tincture, the spirit brings over little or nothing of its flavour; the fine smell, as well as the balsamic pungency, of the rhodium, remaining nearly entire in the inspissated extract, which proves tenacious and adhesive like the turpentine. Infused in water, it gives out likewise great

great part of its smell and taste, together with a bright yellow colour: in evaporation, the water carries off the specific flavour of the wood, leaving in the extract only a slight pungency and bitterishness. Distilled with water, it gives, over, somewhat difficultly and slowly, a highly odoriferous essential oil *, at first of a gold colour, by age turning reddish, amounting, if the rhodium is of a good kind, to about one ounce from fifty: the distilled water is likewise agreeably impregnated with the fragrance of the rhodium, and greatly resembles that of damask roses.

* Oleum ligni
rhodii Pharm.
Lond. & Edin.

The essential oil is used as a perfume, for scenting pomatums, &c. and in this light only the rhodium wood is generally regarded. It promises however, to be applicable to more important purposes, and bids fair to prove a valuable cordial and corroborant.

L I L I U M.

LILIUM ALBUM Pharm. Edinb. *Lilium album flore erecto* & *vulgare* C. B. WHITE LILY: a plant with a single stalk, clothed with oblong, acuminate, thick, ribbed leaves, which have no pedicles; bearing on the top several elegant, naked, white, upright, hexapetalous, bell-shaped flowers, which open successively, and are followed each by an oblong triangular capsule, divided into three cells full of brownish seeds: the root is a single bulb, composed of fleshy scales, with several fibres at the bottom. It is perennial, a native of Syria and Palestine, common in our gardens, and flowers in June.

THE flowers of the white lily have a pleasant sweet smell, and a slightly mucilaginous taste. Their odorous matter is of a very volatile kind, being totally dissipated in drying, and totally carried off in evaporation by rectified spirit as well as water: both menstrua become agreeably impregnated with it by infusion or distillation, but no essential oil has been obtained, though many pounds of the flowers were submitted to the operation at once. The principal use of these flowers is for flavouring expressed oils; which, by insolation with fresh parcels of them continued about three days each time, † are supposed to receive from them, along with their smell, an anodyne and nervine virtue. The distilled water has been sometimes employed as a cosmetic.

† Oleum li-
liorum, susci-
num, &c.

The roots also have been used chiefly for external purposes; as an ingredient in emollient and suppurating cataplasms: they abound with

a strong mucilage, and do not seem to have much active matter besides. Gerard indeed relates, that several persons were cured of dropsies, by the constant use, for a month or six weeks, of bread made of barley-meal with the juice of white lily roots (a) : but there are examples of similar cures being obtained by the use of common dry bread ; and probably in one case, as well as in the other, abstinence from liquids was the remedy.

L I L I U M C O N V A L L I U M .

L I L I U M C O N V A L L I U M Pharm. Edinb. *Lilium convallium album* C. B. *Convallaria ; Maianthemum.* LILY OF THE

VALLEY, MAY LILY : a plant with two or three oblong, acuminate, ribbed leaves ; in the bosoms of which arises a naked stalk, bearing a number of small, naked, white, drooping, bell-shaped, monopetalous flowers, cut about the edges into six segments, and followed by red berries : the roots are long, slender, and white. It is perennial, grows wild in woods and shady places, and flowers in May.

THE flowers of this plant have a fragrant delightful smell, and a penetrating bitterish taste ; both which they readily impart to watery and to spirituous menstrea. Their odorous matter, like that of the white lily, is very volatile ; being totally dissipated in exsiccation, and elevated in distillation both by water and highly rectified spirit : there is no appearance of essential oil in either distillation ; nor does the distilled spirit turn milky on the admixture of water, as those spirits do, which are impregnated with actual oil. The pungency and bitterness, on the other hand, reside in a fixt matter, which remains entire both in the watery and spirituous extracts, and which, in this concentrated state, approaches, as Cartheuser observes, to hepatic aloes.

It is principally from the volatile parts of these flowers, that medicinal virtues have been expected, in nervous and catarrhus disorders ; but probably their fixt parts also have no small, perhaps the greatest, share in their efficacy. The flowers, dried and powdered, and thus divested of their odoriferous principle, prove strongly sternutatory. Watery or spirituous extracts made from them, given in doses of a scruple or half a dram, act as gentle stimulating aperients and laxatives ; and seem to partake of the purgative virtue, as well as of the bitterness, of aloes.

The

(a) *Herbal, enlarged and amended by Johnson, p. 191.*

The roots have nothing of the fine smell which is admired in the flowers, but discover to the taste a greater degree of penetrating bitterness. The bitter matter appears to be of the same kind in these as in the flowers; being equally extracted by water and spirit; remaining entire behind upon inspissating the tinctures or infusions; acting as a strong sternutatory when snuffed up the nose, and as a laxative or purgative when taken internally.

The leaves have the same kind of bitterness, in a lower degree, mixed with a considerable roughness, and a slight sweetishness.

L I M A C E S.

LIMACES terrestres sive cochleæ terrestres Pharm. Edinb. THE SNAIL: an animal, lodged in a short thick turbinated shell, whose aperture is closed in the winter with a kind of cement. The large ash-coloured snail is said to be the species intended for medicinal use; but the smaller, dark-coloured, spotted, striped sort, more common in gardens, is taken indiscriminately, and appears to be not at all different in quality.

THIS animal abounds with a viscid slimy juice, which it readily gives out, by boiling, to milk or water, so as to render them thick and glutinous. The decoctions in milk are apparently very nutritious and demulcent, and stand recommended in a thin acrimonious state of the humours, in consumptive cases, and emaciations.

L I M O N E S.

LIMONES Pharm. Lond. & Edinb. LEMONS: the fruit of the *malus limonia fructu acido Pharm. Lond.* *Malus limonia acida C. B.* a tree resembling the orange; from which it differs chiefly in the leaves having no appendages at the bottom; and in the fruit having a nipple-like production at the end: it is a native of Asia, and cultivated in the warmer parts of Europe, from whence we are supplied with the fruit. There are many varieties of this tree in regard to the fruit: by Linnæus, the several citrons, as well as lemons, are reckoned varieties of one species, which is distinguished only by the pedicles of the leaves being naked, from those of the orange kind. The terms citron and lemon have been often confounded together; what is commonly

monly called citron by the French (*a*) and Germans (*b*) being our lemon, and their lemon our citron.

THE yellow rind of lemons is a grateful aromatic, of common use in stomachic tinctures and infusions, and for rendering other medicines acceptable to the palate and stomach: its flavour is one of those which is best adapted for accompanying medicines of the bitter kind, though of itself it has little or no bitterness. It is less hot than orange peel, and yields in distillation a less quantity of essential oil *: the oil is extremely light, almost colourless, in smell nearly as agreeable as the fresh peel, and frequently employed as a perfume: it is generally brought to us from the southern parts of Europe, under the name of *essence* of lemons †. The flavour of the lemon peel is more perishable in keeping than that of orange peel, yet does not rise so easily in distillation with spirit of wine: for a spirituous extract, prepared from the rind of lemons, retains the aromatic taste and smell of the peel in a much greater degree than an extract prepared in the same manner from that of oranges. After digestion in the spirit, lemon peel proves tough, that of oranges crisp.

* Ol. stillat.
cort limon.
Pharm. Edinb.

† Essentia li-
monum P. L.

The juice of lemons differs from that of oranges only in being more acid. Six drams of it saturate about half a dram of fixt alkaline salt: this mixture, with the addition of a small quantity of some grateful aromatic water or tincture, as simple cinnamon water, is given in cases of nausea and reachings, and generally abates in a little time, the severe vomitings that happen in fevers, when most other liquors and medicines are thrown up as soon as taken: it is used also as a saline aperient in icterical, hydropical, inflammatory and other disorders. A syrup made by dissolving * forty-eight or † fifty ounces of fine sugar in a quart of the depurated juice, is mixed occasionally with draughts and juleps as a mild antiphlogistic, and sometimes used in gargarisms for inflammations of the mouth and tonsils.

Syrup. e succo
limonum.

* Pb. Edinb.

† Pb. Lond.

L I N A R I A.

LINARIA Pharm. Edinb. *Linaria vulgaris lutea flore majore* C. B. *Oxyris, linaria, sive urinaria* Lobel. TOADFLAX: a plant with numerous, oblong, narrow, pointed leaves; greatly resembling the *esula minor* or pine spurge, so as scarcely to be otherwise distinguishable

(a) Codex medicamentarius facultatis Parisiensis, p. xxxviii. & lxx.

(b) Hoffmann. Dissert. de citriis, Opera omnia, supplement, ii. par. i. p. 720.

guishable, before flowering, than by its wanting the milky juice with which the esula abounds: on the tops of the stalks and branches appear spikes of yellow, irregular, monopetalous, gaping flowers, with a long tail behind, followed by roundish bicapsular seed-vessels: it is perennial, grows wild about the sides of dry fields, and flowers in June and July.

The leaves of this herb have a bitterish somewhat saline taste; and when rubbed betwixt the fingers, yield a faint smell, resembling that of elder. Taken internally, they are said to be powerfully resolvent, diuretic, and purgative: their principal use, however, has been external, in unguents and cataplasms, for painful swellings of the hemorrhoidal vessels; against which they have been said to be particularly effectual.

L I N G U A C E R V I N A.

LINGUA CERVINA seu *scolopendrium*, *Pharm. Edinb.* *Lingua cervina officinarum* C. B. *Phyllitis*. HARTS TONGUE: a plant with long, uncut, narrow leaves, set on hairy pedicles, and nipt at the bottom: it has no stalks or manifest flowers; the seeds are a fine dust, lying in large, rough, brown, transverse streaks on the backs of the leaves. It is perennial, and found green at all times of the year, in moist, shady, stony places.

THE leaves of harts-tongue stand recommended as aperients and corroborants, in obstructions of the hypochondriacal viscera, laxities of the intestines, and some disorders of the breast: they have been chiefly used in apozems and infusions, along with maidenhair, spleenwort, and other plants of the same kind, with which they appear to agree in virtue. To the taste, they are slightly roughish and sweetish: with solution of chalybeate vitriol, they strike a blackish colour. When fresh, they yield, on being rubbed or bruised, a faint unpleasant smell, which in drying is in great part dissipated.

L I N I S E M E N.

LINI SEMEN *Pharm. Lond.* *Lini vulgaris semen* *Pharm. Edinb.* *lini sativi* C. B. LINSEED: reddish, brown, glossy, slippery, flat, nearly oval seeds, of the common flax; an annual herb,

herb, cultivated in fields, on account of the mechanic uses of its tough filamentous rind.

THESE seeds have an unctuous, mucilaginous, sweetish taste, and no remarkable smell. On expression, they yield a large quantity of oil; which, when carefully drawn, without the application of heat, has no particular taste or flavour, though in some properties it differs considerably from most of the other oils of this kind; not congealing in winter; not forming a solid soap with fixt alkaline salts (*a*); acting more powerfully, as a menstruum, on sulphureous bodies, than any other expressed oil that has been tried. The seeds, boiled in water, yield a large proportion of a strong flavourless mucilage: to rectified spirit they give out little or nothing.

Infusions of linseed, like other mucilaginous liquors, are used as emollients, incrassants, and obtunders of acrimony, in heat of urine, stranguries, thin defluxions on the lungs, and other like disorders: a spoonful of the seeds, unbruised, is sufficient for a quart of water, larger proportions rendering the liquor disagreeably slimy. The mucilage obtained by inspissating the infusions, or decoctions, is an excellent addition for reducing disgusting powders into the form of an electuary; occasioning the compound to pass the fauces freely, without sticking or discovering its taste in the mouth. The expressed oil is supposed to be more of a healing and balsamic nature than the other oils of this class; and has been particularly commended in coughs, spitting of blood, colicks, and constipations of the belly. The seeds in substance, or the matter remaining after the expression of the oil, are employed externally, in emollient and maturing cataplasms. In some places, these seeds, in times of scarcity, have supplied the place of grain, but appeared to be an unwholesome, as well as an unpalatable food: Tragus relates, that those who fed upon them in Zealand, had the hypochondres in a short time distended, and the face and other parts swelled; and that not a few died of these complaints.

L I N U M C A T H A R T I C U M.

LINUM CATHARTICUM Pharm. Edinb. *Linum pratense*
floribus exiguis C. B. *Chamælinum*. PURGING FLAX OR MILL-
 MOUNTAIN: a small plant, with little oblong smooth leaves, having
 one vein or rib running along the middle, joined in pairs close to the
 stalks,

(*a*) Geoffroy, *Memoires de l'acad. roy. des sciences de Paris*, pour l'ann. 1741.

stalks, which are round, slender, reddish, divided towards the upper part into fine branches, bearing on the tops white pentapetalous uncut flowers, followed each (as in the common flax) by a roundish, ribbed, acuminate capsule, containing ten flattish slippery seeds in as many cells. It is annual, and grows wild on chalky hills, and in dry pasture grounds.

THIS herb is said to be an effectual and safe cathartic : an infusion of an handful of the fresh leaves in whey or white wine, or a dram of the leaves in substance with a little creme of tartar and aniseeds, are directed for a dose. The taste is bitterish and disagreeable.

L I Q U I D A M B R A .

LIQUIDAMBRA Pharm. Edinb. Ambra liquida Pharm. Argent.
LIQUIDAMBER : a resinous juice, of a yellow colour inclining to red, at first about the consistence of turpentine, by age hardening into a solid brittle resin ; obtained from the tree that yields liquid storax, *styrax aceris folio Raii*, growing in Virginia, Mexico, and other parts of America.

THIS juice has a moderately pungent, warm, balsamic taste ; and a very fragrant smell, not unlike that of storax calamita heightened with a little ambergris. It was formerly in common use as a perfume, and might probably be applied to valuable medicinal purposes, but it is not at present much regarded, different artificial compositions having been often substituted to it in the shops.

L I T H O S P E R M U M .

LITHOSPERMUM seu milium folis Pharm. Edinb. Lithospermum majus erectum C. B. GROMWELL or GRAYMILL : a rough plant, with stiff branched stalks, oblong acuminate leaves set alternately without pedicles, and whitish monopetalous flowers divided into five obtuse sections, followed by little roundish, hard, pearl-like seeds inclosed in the cup. It is perennial, grows wild in dry fields and by road-sides, and flowers in May.

THE seeds of gromwell have been accounted notably diuretic ; and recommended for cleansing the kidneys and urinary passages
Z z from

from viscid mucous matters, and promoting the expulsion of gravel. Their virtues do not appear to be very considerable: they have no smell, and their taste is little other than farinaceous. They have long been discarded from practice, though the college of Edinburgh still retains them among the officinal simples.

L U J U L A.

LUJULA Pharm. Lond. Acetosella seu lujula Pharm. Edinb. Trifolium acetosum vulgare C. B. Oxys alba Gerard. Alleluja, oxytriphyllum, & panis cuculi Quorundam. WOOD SORREL or SOUR TREFOIL: a plant, with the leaves and flowers issuing on separate pedicles from the root: the leaves are broad, shaped somewhat like a heart, and stand three together: the flowers are solitary, whitish, monopetalous, divided deeply into five segments, followed by angular capsules, which burst on being touched, and shed numerous small brownish seeds. It is perennial, grows wild in woods, and flowers in April.

* Conserva
lujule P. Lon.
& Edinb.

THE leaves of the wood sorrel are useful saline antiseptics and antiphlogistics; similar both in taste and in medicinal virtue, to those of the *acetosæ* or common sorrels, but somewhat more acid, and rather more grateful both to the palate and stomach. Beaten with thrice their weight of fine sugar, they form a grateful subacid conserve *. Their expressed juice, depurated, is a very agreeable acid: duly inspissated, and set to shoot, it yields a crystalline acid salt of the same nature with that of the sorrels: the saline matter seems to amount to nearly one hundredth part of the weight of the fresh leaves.

L U M B R I C U S.

LUMBRICUS TERRESTRIS Pharm. Edinb. Vermes terrestres. EARTH WORMS. These insects are supposed to have a diuretic and an antispasmodic virtue (a). The faculty of Paris directs them to be prepared for medicinal use, by washing and drying them with a moderate heat. Moistened with wine, or vinous spirits, to prevent their putrefying, and set in a cellar, they are almost wholly resolved in a few days into a slimy liquor, which is said, when mixed with alkaline salts, to yield crystals of nitre.

L U P U L U S.

(a) Hoffmann, in notis ad Poterium, p. 498.

restraining the bleeding of wounds, and immoderate hemorrhoidal fluxes, and drying up running ulcers. In some late trials, the dust has been found to produce the same effect, in stopping hemorrhages after amputation, as the celebrated agaric of the oak.

M A C I S.

MACIS Pharm. Lond. & Edinb. Macis officinarum C. B.

MACE: a pretty thick, tough, unctuous membrane, reticular or variously chapt, of a lively reddish yellow colour approaching to that of saffron, enveloping the shell of the fruit whose kernel is the nutmeg (see *nux moschata*.) The mace when fresh, is of a blood-red colour, and acquires its yellow hue in drying: it is dried in the sun, upon hurdles fixed above one another, and then, as is said, sprinkled with sea-water, to prevent its crumbling in carriage.

MACE has a pleasant aromatic smell, and a warm, bitterish, moderately pungent taste. It is in common use as a grateful spice; and appears to be, in its general qualities, nearly similar to the nutmeg, both as the subject of medicine and of pharmacy. The principal difference consists in its having a greater bitterishness, and less unctosity, and sitting easier on weak stomachs; in its yielding by expression a more fluid oil, and in distillation with water a more subtile volatile one. What is called in the shops expressed oil of mace is prepared, not from this spice, but from the nutmeg.

M A G N E S I A.

MAGNESIA ALBA Pharm. Edinb. MAGNESIA: a fine white earth; soluble readily in all acids, the vitriolic as well as the others, into a bitter purgative liquor; and not convertible by fire into quicklime.

THIS earth has not hitherto been found naturally pure or in a separate state: it was for several years a celebrated secret in the hands of some particular persons abroad, till its preparation was made publick by Lancisi in the year 1717 (a), and afterwards by Hoffmann in 1722 (b). It was then extracted from the mother-ley, or the liquor which

(a) *Annot. in Mercati metallothe. vatican. Arm. ii. cap. x. p. 50.*

(b) *Observationes Physico-chymicæ, Lib. ii. obs. 2.*

which remains after the crystallization, of rough nitre ; either by precipitation with a solution of fixt alkaline salt ; or by evaporating the liquor, and calcining the dry residuum, so as to dissipate the acids by which the earth had been made dissoluble.

The magnesia, in this mother-ley, appears to have proceeded from the vegetable ashes, which are either made ingredients in the compositions from which nitre is obtained, or else added in the elixation of the nitre : for the ashes of different woods, burnt to perfect whiteness, and freed from their alkaline salt, were found to be of the same nature with the true magnesia. But as quicklime also, in most of the German, French, and other European nitre-works, is commonly employed in large quantity, the earth obtained from the mother-leys of those works is rather a calcareous earth than magnesia. What is now brought from abroad, under the name of magnesia, gives plain proofs of its calcareous nature, by its burning into quicklime, and forming a selenites with the vitriolic acid.

The true magnesia is obtained in great purity, from a filtered solution of *sal catharticus amarus* ; by adding a filtered solution of any alkaline salt, till a fresh addition produces no further milkiness. The white earth, which precipitates, is to be washed by repeated affusions of hot as well as cold water, and then dried for use *.

* *Ph. Edinb.*

The magnesia is recommended by Hoffmann as an useful antacid, a safe and inoffensive laxative in doses of a dram or two, and a diaphoretic and diuretic, when given in smaller doses, as fifteen or twenty grains. Since this time, it has had a considerable place in the practice of foreign physicians, and has of late come into some esteem among us, particularly in heart-burns, and for preventing or removing the many disorders which children are thrown into from a redundancy of acid humours in the first passages. It is preferred, on account of its laxative quality, to the testaceous and other absorbent earths, which (unless gentle purgatives are given occasionally to carry them off) are apt to lodge in the body, and occasion a costiveness very detrimental to infants. It must be observed, however, that it is not the magnesia itself which proves laxative, but the saline compound resulting from its coalition with acids : if there are no acid juices in the stomach to dissolve it, it has no sensible operation, and in such cases it may be rendered purgative by drinking any kind of acidulous liquors after it. All the other known soluble earths yield with acids, not purgative, but more or less astringent compounds.

Magnesia,
Manganeſe,
vitriariorum &
mineralogorum.

It may be proper to obſerve, that the name magnesia has been principally applied to a ſubſtance of a very different kind; a native mineral, found in iron mines, and in the lead mines of Mendip hills, in Somerſetſhire, uſually of a dark grey colour, ſometimes bright and ſtriated like antimony, ſometimes dull, with only a few ſmall ſtriae: remarkable for communicating, to a large proportion of glaſs in fuſion, a purpliſh or red tinge, which diſappears on a continuance of the fire, at the ſame time deſtroying the effect of many other colouring matters, and rendering foul or coloured glaſs clear: ſuppoſed to be an ore of iron, and recommended medicinally, when calcined by a ſtrong fire, as an aſtringent; but yielding no iron, or marks of iron, on any of the common trials by which that metal is diſtinguiſhed in ores; and in its nature and compoſition as yet little known. Mr. Pott relates, that on being calcined with ſulphur, and afterwards elixated with water, it yielded a large quantity of a white cryſtalline ſalt, of a bitteriſh aſtringent taſte, followed by a kind of ſweetneſs; and that the ſalt, after ſtrong calcination, taſted like burnt alum, but more acid (a); from whence it may be preſumed, that this mineral conſiſts in great part of an earth analogous to that of alum, which, in combination with acids, makes one of the ſtrongeſt ſtyptics.

M A J O R A N A.

MAJORANA Pharm. Lond. *Majorana ſive ſampsuchus ſeu amaracus*, Pharm. Edinb. *Majorana vulgaris* C. B. SWEET

MARJORAM: a low plant, with ſlender, ſquare, branched, woody ſtalks; and little, oval, ſomewhat downy leaves, ſet in pairs: on the tops grow ſcaly heads of ſmall whitish labiated flowers, whoſe upper lip is erect and cloven, the lower divided into three ſegments. It is ſown annually in gardens, for culinary as well as medicinal uſes: the ſeeds, which rarely come to perfection in this country, are procured from the ſouth of France, where the plant is ſaid to be indigenous.

THE leaves and tops of marjoram have a pleaſant ſmell, and a moderately warm aromatic bitteriſh taſte. Infuſions of them in water, in colour browniſh, ſmell pretty ſtrongly, and taſte weakly and unpleaſantly of the herb: the blackiſh green tinctures, made in rectified ſpirit, have leſs ſmell, but a ſtronger and more agreeable taſte. In diſtillation with water, an eſſential oil * is obtained, amounting, as Hoffmann

* Ol eſſent.
majoranae
P. L. & E.

(a) *Miſcellanea Berolinenſia*, tom. vi.

Hoffmann observes, to about one ounce from sixty-four of the leaves slightly dried; when carefully drawn, of a pale yellow colour; by age, or too hasty fire in the distillation, contracting a reddish hue; of a very hot penetrating taste, and in smell not near so agreeable as the marjoram itself: the remaining decoction, thus divested of the volatile aromatic matter, is weakly, but unpleasantly, bitterish and austere. Great part of the aromatic matter of the herb rises also in the inspissation of the spirituous tincture, and impregnates the distilled spirit: the remaining extract is stronger in taste than that made with water, its quantity being less, but has not much of the warmth or flavour of the marjoram.

This plant has been chiefly recommended in disorders of the head and nerves, in uterine obstructions and mucous discharges proceeding from what is called a cold cause (that is, from a laxity and debility of the solids, and a sluggish state of the juices) and in the humoral asthmas and catarrhs of old people. The powder of the leaves, their distilled water, and the essential oil properly diluted, are agreeable errhines, and accounted particularly useful in pituitous obstructions of the nostrils, and disorders of the olfactory organs.

M A L A B A T H R U M.

MALABATHRUM Pharm. Lond. Tamalapatra; Folium indum.

INDIAN LEAF: the leaf of the *cinamomum sive canella malabarica* & *javanensis* C. B. or casia-lignea tree, brought from the East-Indies. It is of a firm texture; of an oblong oval figure, pointed at both ends; smooth and glossy on one side, which is the upper, and less so on the lower; of a yellowish green colour on the former, and a pale brownish on the latter; furnished with three ribs, running its whole length, very protuberant on the lower side, and two smaller ones which bound the edges.

THESE leaves have a remarkable affinity, in one respect, with the casia or bark of the tree (see page 191), both the leaves themselves and their pedicles being, like it, extremely mucilaginous: chewed, they render the saliva slimy and glutinous: infused in water, they give out a large proportion of a strong tenacious mucilage. But of the aromatic flavour, which is strong in the bark, the leaves, as brought to us, have very little: they scarcely discover any warmth or pungency to the taste, and have little or no smell unless well rubbed, when.

when they yield an agreeable, though weak, spicy odour. They are no otherwise made use of than as an ingredient in mithridate and theriaca; and are, when in their greatest perfection, far inferior to the mace which our college directs as a succedaneum to them.

M A L V A.

MALVA Pharm. Lond. & Edinb. Malva silvestris folio sinuato C. B. COMMON MALLOW: a plant with firm branched stalks, and roundish, notched leaves, set alternately on long pedicles: in their bosoms come forth bell-shaped monopetalous flowers, deeply divided into five heart-shaped sections, of a pale purplish or whitish colour variegated with deeper streaks, followed by a number of capsules set in form of a flat disk, and containing each a kidney-shaped seed: the root is long, slender, and whitish. It is perennial, common in uncultivated grounds, and found in flower throughout the summer.

*Conf. florum
malvæ P. L.

THE leaves and flowers of the mallow are in taste mucilaginous, and of no remarkable smell. The leaves were formerly of some esteem, as an emollient or laxative dietetic article, in dry constipated habits in the warmer climates: at present, infusions or decoctions of the leaves and flowers, and a conserve made by beating the fresh flowers with thrice their weight of fine sugar *, are sometimes directed in dysuries, heat and sharpness of urine, and other like complaints; but the principal use of the herb is in emollient glysters, cataplasms, and fomentations. The roots have been recommended in disorders of the breast, and though now disregarded, may perhaps deserve some notice: they have a soft sweet taste, without any particular flavour, approaching in some degree to that of liquorice: an extract made from them by rectified spirit of wine is of great sweetness.

M A N N A.

MANNA Pharm. Lond. & Edinb. Manna seu ros calabrinus Pharm. Paris. MANNA: a sweet juice, obtained from certain ash trees (a) in the southern parts of Europe, particularly in Calabria and

(a) Ornus: Fraxinus rotundiore folio, & fraxinus humilior minore & tenuiore folio C. B.

and Sicily; exuding from the leaves, branches, or trunk of the tree, and either naturally concreted, or exsiccated and purified by art.

Juices of the same nature are collected, in the eastern countries, from other trees and shrubs (a): and similar exudations are sometimes found on different kinds of trees in Europe, as particularly on the larch in the Briançonois * in Dauphiny. How far the manna juices of different vegetables differ from one another, is not well known: but thus much is certain, that one and the same tree affords mannas very considerably different, in their colour, in their taste, and in their disposition to assume a solid concrete form; that is, in their purity, or the greater or less admixture of oily or resinous matter.

* Manna
brigantiaca.

The best sort of the officinal or Calabrian manna is in oblong pieces or flakes, moderately dry, friable, very light, of a whitish or pale yellow colour, and in some degree transparent: the inferiour kinds are moist, unctuous, and brown. Both sorts are said to be sometimes counterfeited by compositions of sugar, honey, and purgative materials: compositions of this kind, in a solid or dry form, may be distinguished by their weight, compactness, and untransparency: both the dry and moist compositions may be distinguished by their taste, which is sensibly different from that of true manna, and with greater certainty by their habitude to menstrua.

THIS juice liquefies in a moist air, dissolves readily in water, and, by the assistance of heat, in rectified spirit also; the impurities only being left by both menstrua. On inspissating the watery solution, the manna is recovered of a much darker colour than at first. From the saturated spirituous solution, great part of it separates as the liquor cools, concreting into a flaky mass, of a snowy whiteness, and a very grateful sweetness: the liquor, remaining after the separation of this pure sweet part of the manna, leaves, on being inspissated, an unctuous, dark coloured, disagreeable matter, in greater or less quantity according as the manna made use of was less or more pure.

Manna, in doses of an ounce and upwards, proves a gentle laxative: it operates in general with great mildness, so as to be safely given in inflammatory or acute distempers, where the stimulating purgatives have no place. It is particularly proper in stomachic coughs, or those which have their origin in the stomach; the manna, by its sweetness and unctuousity, contributing to obtund as well as to evacuate the offending humours: in this intention it is sometimes made into a linctus

3 A

or

(a) Vide Clusii exotic. lib. i. p. 164. Rauwolf itin. p. 74. Teixeira hist. Pers. p. 29.

* Lohoch de
manna P. E.

or lohoch, with equal quantities of oil of almonds and of syrup of violets *. In some constitutions, however, it acts unkindly, especially if given in considerable quantity, occasioning flatulencies, gripes, and distensions of the belly; inconveniences which may be generally obviated by a small addition of some grateful aromatic. It does not produce the full effect of a cathartic, unless taken in large doses, as two ounces or more, and hence is rarely employed in this intention by itself: it may be commodiously dissolved in the purging mineral waters, or acuated with the cathartic salts, or other purgatives: its efficacy is said to be peculiarly promoted by casia fistularis, a mixture of the two purging more than either of them separately, (see page 190.)

M A R G A R I T Æ.

MARGARITÆ Pharm. Lond. Perlae; Uniones. PEARLS: small calculous concretions, of a bright semitransparent whiteness, found on the inside of the shell of the *concha margaritifera* or mother-of-pearl fish, as also of certain oysters and other shell-fishes. The finest pearls are brought from the east and west Indies: the oriental, which are most esteemed, have a more shining silver-like hue than the occidental, which last are generally somewhat milky: an inferior sort is sometimes met with in the shell-fishes of our own seas, particularly on the coasts of Scotland. The coarse rough pearls, and the very small ones which are unfit for ornamental uses, called *rag pearl* and *seed pearl*, are those generally employed in medicine.

It is said, that counterfeit pearls are often brought from China, made of pellets of clay coated with the white matter of oyster-shells. The clay may be distinguished by its acquiring an additional hardness in the fire, and resisting acids; whereas the true pearls calcine in the fire and become quicklime, and readily dissolve in acids; the vitriolic excepted, which precipitates them when previously dissolved by other acids.

These properties of the pearl, shew that it is an earth of the same kind with crabs-claws, oyster-shells, and the other calcareous animal absorbents. It has no other virtues than those of the other substances of this class, and does not possess those virtues in any greater degree than the common testacea (see *terrea absorbentia*.)

M A R R U B I U M

M A R R U B I U M.

MARRUBIUM Pharm. Lond. Marrubium album sive prasium Pharm. Edinb. Marrubium album vulgare C. B. WHITE HORE-
HOUND: a hoary plant, with square stalks, and roundish, wrinkled,
indented leaves, set in pairs on long pedicles; in the bosoms of which
come forth thick clusters of whitish labiated flowers, in striated cups,
whose divisions terminate in sharp points or prickles. It is perennial,
grows wild in uncultivated grounds, and flowers in June.

The leaves of horehound have a moderately strong smell, of the
aromatic kind but not agreeable, which by drying is improved, and
in keeping for some months is in great part dissipated: their taste is
very bitter, penetrating, diffusive, and durable in the mouth. From
these qualities, and their sensible operation, when taken in any confi-
derable doses, of loosening the belly, it may be presumed that this
herb is a medicine of some efficacy, and has no ill claim to the corro-
borant and aperient virtues, for which it is recommended, in humoural
asthmas, and in menstrual suppressions, cachexies, and other chroni-
cal disorders proceeding from a viscosity of the fluids and obstructions
of the viscera: a dram of the dry leaves in powder, or two or three
ounces of the expressed juice, or an infusion of half a handful or a
handful of the fresh leaves are commonly directed for a dose. The
dry herb gives out its virtue both to watery and spirituous menstrea,
tinging the former of a brownish, the latter of a green colour: on
inspissating the watery infusion, the smell of the horehound wholly
exhales, and the remaining extract proves a strong and almost flavour-
less bitter: rectified spirit carries off likewise greatest part of the
flavour of the herb, leaving an extract in less quantity than that ob-
tained by water, and of a more penetrating bitterness.

M A R U M.

MARUM SYRIACUM Pharm. Lond. & Edinb. Majorana syriaca vel cretica C. B. Marum cortusi J. B. Chamædrys mari- tima incana frutescens foliis lanceolatis Tourn. MARUM, SYRIAN
HERB-MASTICH: a low shrubby plant, with small oval leaves, pointed
at each end, set in pairs, without pedicles, of a dilute green colour
above, and hoary underneath: in their bosoms appear solitary, purple,
labiated

labiated flowers, wanting the upper lip; the lower lip is divided into five segments, the middlemost of which is larger than the rest, and hollowed like a spoon: each flower is followed by four roundish seeds inclosed in the cup. It is said to be a native of Syria, and of one of the Hieres islands, on the coast of Provence: in our climate it does not well bear severe winters without shelter.

THE leaves of marum have a bitterish, aromatic, very pungent taste; and when rubbed a little, yield a quick piercing smell, which provokes sneezing. They have been chiefly made use of as an ingredient in sternutatory powders, though, from their sensible qualities, they promise to be applicable to more important purposes, and to have no ill title to the stimulating, attenuating, deobstruent, antiseptic virtues ascribed to them by Wedelius in a dissertation on this plant: they seem particularly well adapted as an ingredient in the volatile oily aromatic spirits with which their agreeable pungency in a great degree coincides.

The marum loses but little of its pungency on being dried, and in this respect it differs remarkably from many other acrid herbs, as those called antiscorbutic. It gives out its active matter partially to water, and completely to rectified spirit: the watery infusions, in colour yellow, though pretty strongly impregnated with the smell of the marum, have only a weak taste: the spirituous tinctures, in colour yellowish-green, are strongly impregnated with the taste, but have the smell in great measure covered by the menstruum. Distilled with water, it yields a highly pungent, subtile, volatile essential oil, similar to that of scurvygrass, but stronger, and of a less perishable pungency: the remaining decoction is little other than bitterish. Rectified spirit carries off likewise, in the inspissation of the spirituous tincture, a considerable share of the smell and pungency of the marum, but leaves much the greatest part concentrated in the extract; which, on being tasted, fills the mouth with a durable, penetrating, glowing warmth.

M A R U M V U L G A R E.

MARUM VULGARE Pharm. Lond. & Edinb. *Sampfucus*
five marum mastichen redolens C. B. Thymbra hispanica majoranæ
folio Tournefort. Clinopodium quibusdam, mastichina gallorum J. B.
 COMMON HERB-MASTICH: a low shrubby plant, with small oblong
 leaves, pointed at both ends, set in pairs, without pedicles: at the
 tops.

tops of the branches stand woolly heads, containing small white labiated flowers, whose upper lip is erect and cloven, the lower divided into three segments: each flower is followed by four seeds inclosed in the cup. It grows spontaneously on dry gravelly grounds in Spain, and in the like soils it bears the ordinary winters of our own climate.

THIS plant is employed chiefly, like the foregoing, as an errhine. It is considerably pungent, though far less so than the *marum syriacum*; and of a strong agreeable smell, somewhat resembling that of mastich.

M A S T I C H E.

MASTICHE Pharm. Lond. & Edinb. MASTICH: a concrete resin, obtained in the island Chio from the lentisk tree (see *lentiscus*), brought over in small yellowish transparent grains or tears. From transverse incisions made in the bark of the tree, about the beginning of August, the resin exudes in drops, which running down, and concreting on the ground, are thence swept up (a). The tree is raised also in several parts of Europe; but no resin has been observed to issue from it in these climates; nor do all the trees of this species in the island Chio itself, afford this commodity.

THIS resin has a light agreeable smell, especially when rubbed or heated: in chewing, it first crumbles, soon after sticks together, and becomes soft and white like wax, without impressing any considerable taste. It totally dissolves (except the earthy impurities, which are commonly in no great quantity) in rectified spirit of wine, and then discovers a degree of warmth and bitterness, and a stronger smell than that of the resin in substance: the colour of the solution is a pale yellow. Boiled in water, it impregnates the liquor with its smell, but gives out little or nothing of its substance: distilled with water, it yields a small proportion of a limpid essential oil, in smell very fragrant, and in taste moderately pungent. Rectified spirit brings over also, in distillation, the more volatile odorous matter of the mastich.

Mastich is recommended, in doses of from half a scruple to half a dram, as a mild corroborant and restraining, in old coughs, hemoptyses, diarrhoeas, weakness of the stomach, &c. It is given either in substance, divided by other materials; or dissolved in spirit and mixed with syrups; or dissolved in water into an emulsion by the intervention of gum-arabic or almonds: the decoctions of it in water, which
some

(a) Tournefort, *Voyages to the Levant*, vol. i. p. 287.

M A T E R I A M E D I C A.

some have directed, have little or nothing of the virtue of the mastich. It is said that this resin is commonly employed as a masticatory, in Chio and among the Turkish women, for sweetening the breath, and strengthening the gums and teeth; and that when thus used, by procuring a copious excretion of saliva, it proves serviceable in catarrhus disorders.

M A T R I C A R I A.

MATRICARIA Pharm. Lond. *Matricaria seu parthenium* Pharm. Edinb. *Matricaria vulgaris seu sativa* C. B. *Febrifuga* Dorsten.

FEVERFEW: a plant with firm branched stalks, and roughish leaves, each of which is composed of two or three pairs of indented oval segments set on a middle rib, with an odd one, at the end, cut into three lobes: the flowers stand on the tops in the form of an umbel, consisting, each, of a number of short white petals, set round a yellow disk, which is followed by small striated seeds. It is biennial, or of longer duration; grows wild in hedges and uncultivated places, and flowers in June.

THE leaves and flowers of feverfew have a strong, not agreeable smell, and a moderately bitter taste; both which they communicate, by warm infusion, to water and to rectified spirit. The watery infusions, inspissated, leave an extract of considerable bitterness, and which discovers also a saline matter, both to the taste, and in a more sensible manner, by throwing up to the surface small crystalline efflorescences in keeping: the peculiar flavour of the matricaria exhales in the evaporation, and impregnates the distilled water: on distilling large quantities of the herb, a yellowish strong-scented essential oil is found floating on the surface of the water. Rectified spirit carries off but little of the flavour of this plant in evaporation or distillation: the spirituous extract is far stronger in taste than that made with water, and more agreeable in smell than the herb itself. The quantity of spirituous extract, according to Cartheuser's experiments, is only about one sixth the weight of the dry leaves, whereas the watery extract amounts to near one half.

This herb is recommended as a warm, aperient, carminative bitter; and supposed to be particularly serviceable in female disorders. It appears, from the above analysis, to be a medicine of no inconsiderable virtue, in some degree similar to camomile.

M E C H O A C A N N A .

MECHOACANNA Pharm. Edinb. *Bryonia mechoacanna alba*
 C. B. *Convolvulus americanus mechoacan dictus Raii.* *Jalappa*
alba & rhabarbarum album Quibusdam. MECHOACAN: the root of
 an American convolvulus, brought chiefly from a province in Mexico
 of the same name, in thin transverse slices, like jalap, but larger and
 whiter.

THIS root was first introduced, about the year 1524, and continued
 in esteem for a considerable time, as a mild cathartic, of very little
 taste or smell, not liable to offend the stomach, of slow operation,
 but effectual and safe: by degrees, it gave place to jalap, which has
 now, among us, almost wholly superseded its use. It seems to differ
 from jalap only in being weaker: the resins obtained from the two
 roots have the same qualities, but mechoacan scarcely yields one sixth
 part so much as jalap does, and hence requires to be given in much
 larger doses to produce the same effects. The dose of the mechoacan
 in substance is from one dram to two or more.

M E L .

MEL Pharm. Lond. & Edinb. HONEY: a sweet vegetable
 juice; collected by the bee from the flowers of different plants, and
 deposited in the cells of the combs; from which it is extracted, either
 by spontaneous percolation through a sieve in a warm place, or by ex-
 pression. That which runs spontaneously is purer than the expressed;
 a quantity of the waxy and other impurities being forced out along
 with it by the pressure, especially when the combs are previously
 heated. The best sort of honey is of a thick consistence, a whitish
 colour, an agreeable smell, and a very pleasant taste: both the colour
 and flavour are said to differ in some degree according to the plants
 which the bees collect it from.

HONEY, exposed to a gentle heat, as that of a water bath, be-
 comes thin, and throws up to the surface its waxy impurities, together
 with the meal or flower sometimes fraudulently mingled with it,
 which may thus be separated by despumation, so as to leave the honey
 pure *. On continuing the heat, there rises a considerable quantity
 of aqueous fluid, impregnated with the fine smell of the honey: the
 inspissated.

* Mel def-
 pumatum
 P. L. & Ed.

inspissated residuum, like the honey at first, dissolves both in water and in rectified spirit, and promotes the union of oily and resinous substances with watery liquors. By treating the inspissated mass with moist clay, as practised by the sugar-bakers for purifying sugar from its unctuous treacly matter, the unctuous parts of honey may in like manner be separated, and its pure sweet matter obtained in the form of a solid, saline, white concrete.

* Oxy-mel
simplex P. L.
& Edinb.

This juice is an useful sweet, for medicinal as well as domestic purposes; more aperient and detergent than the simpler sweet prepared from the sugar cane; particularly serviceable for promoting expectoration in disorders of the breast, and as an ingredient in cooling and detergent gargarisms. For these, and other similar intentions, it is sometimes mixed with vinegar, in the proportion of about two pounds to a pint, and the mixture boiled down to the consistence of a syrup*; sometimes impregnated with the virtues of different vegetables, by boiling it in like manner with their juices or infusions, till the watery parts of the juice or infusion have exhaled and left the active matter incorporated with the honey. The boiling of honey, though it dissipates great part of its odorous matter, and thus proves in some cases injurious to it, is in some cases also of advantage: there are particular constitutions, with which honey remarkably disagrees, and in which even very small quantities occasion gripes, purging, and great disorder: by boiling, it loses of that quality by which it produces these effects.

M E L I L O T U S.

MELILOTUS Pharm. Edinb. *Melilotus officinarum germanice Casp. Baubin. Lotus silvestris & trifolium odoratum quibusdam.*
MELILOT OR KINGS-CLAVER: a plant with smooth oval serrated leaves, standing three together, on slender pedicles; and round, striated, branched stalks, terminated by long spikes of papilionaceous flowers drooping downwards, which are followed by short thick wrinkled pods, containing, each, one or two roundish seeds. It is annual or biennial, and found in flower, in hedges and corn fields, greatest part of the summer.

MELILOT has been said to be resolvent, emollient, anodyne, and to participate of the virtues of camomile. In its sensible qualities, it differs very materially from that plant: its taste is unpleasant, subacid, subsaline, but not bitter: when fresh, it has scarcely any smell; in drying,

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drying, it acquires a pretty strong one, of the aromatic kind, but not agreeable. The principal use of the plant has been in glysters, fomentations, and other external applications: it formerly gave name to one of the officinal plasters; which received from the melilot a green colour and an unpleasant smell, without any addition to its efficacy.

M E L I S S A.

MELISSA Pharm. Lond. & Edinb. *Melissa hortensis* C. B. *Melyssophyllum*, *mellifolium*, *mellitidis*, *citrargo*, *citraria*, *cedronella*, *apiastrum* Quorundam. BALM OF BAULM: a plant with square stalks; and oblong, pointed, dark green, somewhat hairy leaves, set in pairs; in the bosoms of which come forth pale reddish labiated flowers, standing several together on one pedicle, with the upper lip roundish, erect and cloven, and the lower divided into three segments. It is perennial; a native of mountainous places in the southern parts of Europe; and flowers in our gardens in June.

THIS plant, formerly celebrated for cephalic, cordial, stomachic, uterine, and other virtues, is now justly ranked among the milder corroborants. It has a pleasant smell, somewhat of the lemon kind, and a weak aromatic taste; of both which it loses a considerable part on being dried; a slight roughness, which the fresh herb is accompanied with, becoming at the same time more sensible. Infusions of the leaves in water, in colour greenish or reddish brown, according to the degree of saturation, smell agreeably of the herb, but discover no great taste, though, on being inspissated, they leave a considerable quantity of a bitterish and somewhat austere extract: the infusions are sometimes drank as tea in chronical disorders proceeding from debility and relaxation, and sometimes acidulated with lemon juice for a diluent in acute diseases. On distilling the fresh herb with water, it impregnates the first runnings pretty strongly with its grateful flavour*: when large quantities are subjected to the operation at once, there separates, and rises to the surface of the aqueous fluid, a small portion of essential oil, in colour yellowish, of a very fragrant smell, apparently of great medicinal activity, commended by Hoffmann as an excellent corroborant of the nervous system. Tinctures of the newly-dried leaves made in rectified spirit, in colour blackish green, discover less of the balm smell than the watery infusions, but have its taste in

* Aq. melissæ
Pharm. Edinb.

a greater degree: inspissated, they leave an extract in somewhat less quantity than that obtained by water, in taste stronger, and which retains a considerable share of the specific smell and flavour of the balm, but is less agreeable than the herb in substance.

M E N T H A.

MINT: a perennial herb; with square stalks; serrated undivided leaves set in pairs; and spikes of monopetalous flowers, each of which is cut into four sections, and followed by four seeds inclosed in the cup.

1. MENTHA VULGARIS *Pharm. Lond.* *Mentha sativa Pharm. Edinb.* *Mentha angustifolia spicata C. B.* Mint, hartmint, spearmint: with oblong, narrow, pointed leaves, joined close to the stalk; and small purplish flowers standing in long spikes on the tops. It is a native of the warmer climates, common in our gardens, and flowers in June and July.

THIS herb has a strong agreeable aromatic smell, and a bitterish, roughish, moderately warm taste. It is in general use as a restraining stomachic and carminative: in vomitings and weakness of the stomach, there are, perhaps, few simples of equal efficacy. Some report that it prevents the coagulation of milk, and hence recommend it to be used along with milk diets, and even in cataplasms and fomentations for resolving coagulated milk in the breasts: upon experiment, the curd of milk, digested in a strong infusion of mint, could not be perceived to be any otherwise affected than by common water, but milk, in which mint leaves were set to macerate, did not coagulate near so soon as an equal quantity of the same milk kept by itself.

The leaves are sometimes taken in substance, beaten with thrice their weight of fine sugar into a conserve*. Moderately bruised, they yield upon expression about two thirds their weight of a turbid, brown-coloured, somewhat mucilaginous juice; which is commonly supposed to retain the full virtues of the mint, but which, though participating of the bitterness and subastringency of the herb, is found to have little or nothing of the peculiar aromatic flavour in which the principal virtue of this plant resides. The leaves lose in drying about three fourths of their weight, without suffering much loss of their smell

* Conserv.
fol. menthæ
vulg. *P. Lond.*

smell or taste; nor is the smell soon dissipated by moderate warmth, or impaired in keeping.

Cold water, by maceration for six or eight hours on the dry herb, and warm water in a shorter time, become richly impregnated with its flavour: if the maceration be long continued, the grosser parts of the mint are extracted, and the liquor proves less grateful: on boiling the mint in water till the aromatic matter is dissipated, the remaining dark-brown liquor is found nearly similar to the recent juice; unpleasant, bitterish, subastringent, and mucilaginous. By distillation, a pound and a half of the dry leaves communicate a strong impregnation to a gallon of water *, which is occasionally made still richer in the virtue of the mint, by steeping in it for three or four hours, in a warm place, a fresh quantity of the herb, as half an ounce to a pint †: the distilled water proves rather more elegant if drawn from the fresh ‡ than from the dry plant, though the latter is frequently made use of as being procurable at all times of the year. Along with the aqueous fluid, an essential oil § distils, of a pale yellowish colour, changing by age to a reddish, and at length to a dark red, in quantity near an ounce from ten pounds of the fresh herb in flower, smelling and tasting strongly of the mint, but somewhat less agreeable than the herb itself.

* Aq. menthæ
vulg. simpl.
Pharm. Lond.

† Tinctura
menthæ P. E.

‡ Aq. menthæ
Pharm. Edinb.

§ Ol. menthæ
essentiale
Ph. L. & Ed.

Dry mint, digested in rectified spirit, either in the cold or with a gentle warmth, gives out readily its peculiar taste and smell, without imparting the grosser and more ungrateful matter, though the digestion be long continued. The tincture appears by day-light of a fine dark green by candle-light of a bright red colour: a tincture extracted from the remaining mint by fresh spirit appears in both lights green: the colour of both tinctures changes, in keeping, to a brown. On gently inspissating the filtered tinctures, little or nothing of their flavour rises with the spirit: the remaining extract possesses the concentrated virtues of about ten times its weight of the dry herb; and differs from the products obtained by distillation with water, in this; that the bitterness and subastringency of the mint, which are there separated from the aromatic part, are here united with it.

Proof spirit extracts the smell and taste of mint, but not its green colour. The tincture is brown, like the watery infusions; and like them also, it becomes ungrateful if the digestion is long continued. On gentle distillation, the more spirituous portion, which rises at first, discovers little flavour of the mint; but as soon as the watery part begins to distil, the virtues of the mint come over plentifully with it. Hence the officinal spirituous water, prepared by drawing off a gallon

* Aq. menthæ of proof spirit from a pound and a half of the dried leaves *, proves strongly impregnated with the mint.

vulgaris spiri-
tuosa Ph. Lon.

After mint has been repeatedly infused in water, rectified spirit still extracts from it a green tincture, and a sensible flavour of mint: on the other hand, such as has been first digested in spirit, gives out afterwards to water a brown colour, and a kind of nauseous mucilaginous taste very different from that which distinguishes mint. The spirituous tinctures mingle with watery liquors, without precipitation or turbidness; but spirituous liquors, impregnated with its pure volatile parts by distillation, turn milky on the admixture of water.

2. MENTHA AQUATICA *sive mentastrum Pharm. Paris.* *Mentha aquatica sive sisymbrium J. B.* *Mentha rotundifolia palustris sive aquatica major C. B.* Water mint: with somewhat oval leaves set on pedicles, and long stamina standing out from the flowers.

3. MENTASTRUM HIRSUTUM: *Auricularia officinarum Dale:* *Mentha palustris folio oblongo C. B.* Hairy water-mint: with long hairy leaves having no pedicles; and broad spikes of flowers.

BOTH these plants grow wild in moist meadows, marshes, and on the brinks of rivers, and flower towards the end of summer. They are less agreeable in smell than the spearmint, and in taste bitterer and more pungent: the second sort approaches in some degree to the flavour of pennyroyal. They yield a much smaller proportion of essential oil: from twenty pounds of the water mint were obtained scarcely three drams. With regard to their virtues, they appear to partake of those of spearmint; to which they are obviously far inferior as stomachics. The hairy water-mint is supposed to be the *auricularia*, *planta zeylanica*, or earwort, celebrated by Marloe for the cure of deafness; though probably not more effectual against that complaint, than the other water-mint against nephritic ones, in which it is said to have been formerly an empirical secret.

4. MENTHA PIPERITIS *Pharm. Lond. & Edinb.* *Mentha spicis brevioribus & habitioribus, foliis menthæ fuscæ, sapore fervido piperis Raii synopsis.* *Mentha floribus capitatis, foliis lanceolatis serratis subpetiolatis Linnæi spec. plant.* Pepper-mint: with acuminate leaves on very short pedicles; and the flowers set in short thick spikes or heads. It is a native of this kingdom; and, so far as is known, of this kingdom only: it is much less common, however, than the other wild mints; but having been of late received in general practice as a medicine, it is now raised plentifully in gardens, and does not appear (like many

many of the other plants that grow naturally in watery places) to lose any thing of its virtue with this change of soil.

THIS species has a more penetrating smell than any of the other mints; and a much stronger and warmer taste, pungent and glowing like pepper, and sinking as it were into the tongue. It is a medicine of great importance in flatulent colics, hysteric depressions, and other like complaints; exerting its activity as soon as taken into the stomach, and diffusing a glowing warmth through the whole system; yet not liable to heat the constitution near so much as might be expected from the great warmth and pungency of its taste.

By maceration or infusion, it readily and strongly impregnates both water and spirit with its virtue; tinging the former of a brownish colour, and the latter of a deeper green than the other mints. In distillation with water, it yields a considerable quantity of essential oil *, of a pale greenish yellow colour, growing darker coloured by age, very light, subtile, possessing in a high degree the specific smell and penetrating pungency of the pepper-mint: the decoction, remaining after the separation of this active principle, is only bitterish and subastringent like those of the other mints. Rectified spirit, drawn off with a gentle heat from the tincture made in that menstruum, brings over little of the virtue of the herb, nearly all its pungency and warmth remaining concentrated in the extract, the quantity of which amounts to about one fourth of the dried leaves. A simple † and a spirituous ‡ distilled water, drawn in the same proportions as those of spearmint, and the essential oil, are kept in the shops.

* Ol. essent.
menthæ
piperitidis
Ph. L. & Ed.

† Aq. menthæ
piperit. simp.
Ph. L. & Ed.
‡ Aq. menthæ
pip. spirituosâ
Pharm. Lond.

M E R C U R I A L I S.

HERB-MERCURY: a plant with oblong, acuminate, indented leaves, standing in pairs: in their bosoms come forth, either spikes of imperfect flowers, set in three-leaved cups, falling off without any seeds; or little rough balls, joined two together, including each a single seed.

I. MERCURIALIS *mas* & *femina* Pharm. Edinb. *Mercurialis testiculata sive mas, & mercurialis spicata sive femina discoridis & plinii* C. B. French mercury: with smooth leaves, and branched stalks. The flowering plants, called female, and those which produce seeds, called male, are both annual, and grow wild together in shady uncultivated grounds.

THE leaves of this plant have no remarkable smell, and very little taste: when freed by exsiccation from the aqueous moisture, with which they abound, their prevailing principle appears to be of the mucilaginous kind. They are ranked among the emollient oleraceous herbs, and said to gently loosen the belly: their principal use has been in glysters.

2. CYNOCRAMBE: *Mercurialis montana testiculata* & *spicata* C. B. Dogs mercury, male and female: with rough leaves and unbranched stalks. It is perennial and grows wild in woods and hedges.

THIS species has been said by some to be similar in quality to the foregoing, and to be more acceptable to the palate as an oleraceous herb: it has lately however been found to be possessed of noxious qualities, acting as a virulent narcotic. An instance is related in N^o 203 of the philosophical transactions, of its ill effects on a family, who eat at supper the herb boiled and fried: the children, who were most affected by it, vomited, purged, and fell fast asleep: two slept about twenty-four hours, then vomited and purged again, and recovered: the other could not be waked for four days, and then opened her eyes and expired.

M E U M.

MEUM Pharm. Edinb. *Meum athamanticum* Pharm. Lond. *Meum foliis anethi* C. B. *Meu* & *athamanta* & *radix ursina quibusdam*.

SPIGNET, BAULDMONY: an umbelliferous plant, with bushy leaves divided into slender segments, like those of fennel but finer; producing large, oblong, striated seeds, flat on one side and convex on the other: the root is long, variously branched, with generally a number of hairs or filaments at top, which are the remains of the stalks of former years, of a brownish colour on the outside, pale or whitish within, when dried of a fungous texture. It is perennial, grows wild in meadows in some parts of England, and flowers in June.

THE root of spignet, recommended as a carminative, stomachic, and for attenuating viscid humours, appears to be nearly of the same nature with that of lovage; differing, in its smell being rather more agreeable, somewhat like that of parsnips, but stronger, and in its taste being less sweet and more warm or acrid. The difference betwixt the two roots is most considerable in the extracts made from them

them by water ; the extract of spignel root being unpleasantly bitterish, with little or nothing of the sweetness of that of lovage roots. The spirituous extract of spignel, more aromatic than that of the lovage, is moderately warm, bitterish, and pungent.

M I L L E F O L I U M.

MILLEFOLIUM Pharm. Edinb. *Millefolium vulgare album*, & *millefolium purpureum* C. B. *Achillea foliis bipinnatis nudis, laciniis linearibus dentatis* Linn. spec. plant. *Myriophyllum*, *Chiliophyllum*, *militaris herba*, *stratiotes*, *carpentaria*, *lumbus veneris*, & *supercilium veneris* Quibusdam.

MILFOIL or YARROW: a plant with rough stiff leaves, divided into small segments, set in pairs along a middle rib like feathers: the little flowers stand thick together in form of an umbel on the top of the stiff stalk, and consist each of several whitish or pale purplish petals set round a kind of loose disk of the same colour, followed by small crooked seeds. It is perennial, grows plentifully by the sides of fields and on sandy commons, and is found in flower greatest part of the summer.

THE leaves and flowers of milfoil are greatly recommended by some of the German physicians (*a*) as mild corroborants, traumaticks, and antispasmodics, in diarrhœas, hemorrhages, hypochondriacal and other disorders. They promise by their sensible qualities, to be of no inconsiderable activity. They have an agreeable though weak aromatic smell, and a bitterish, roughish, somewhat pungent taste. The leaves are chiefly directed for medicinal use, as having the greatest bitterishness and austerity: the flowers have the strongest and most subtile smell, and promise to be of most efficacy (if the plant has really any such efficacy) as an anodyne or antispasmodic. Dr. Grew observes, that the young roots have a glowing warm taste, approaching to that of contrayerva, and thinks they might in some measure supply its place; but adds, that they lose much of their virtue in being dried (*b*), from whence it may be presumed that their active matter is of another kind.

The virtue of the leaves and flowers is extracted both by watery and spirituous menstrua; the astringency most perfectly by the former, their

(*a*) Stahl. *Dissert. de therapia passionis hypochondriacæ*. Hoffmann, *De præstantia remedium domesticorum* §. 18.

(*b*) *Idea of philosophic history of plants* §. 29. *Of the diversities of tastes*, chap. v. §. 2.

their aromatic warmth and pungency by the latter, and both of them equally by a mixture of the two. The flowers, distilled with water, yield a penetrating essential oil, possessing the flavour of the milfoil in perfection, though rather less agreeable than the flowers themselves, in consistence somewhat thick and tenacious, in colour remarkably variable, sometimes of a greenish yellow, sometimes of a deep green, sometimes of a bluish green, and sometimes of a fine blue: these differences seem to depend in great measure on the soil in which the plant is produced; the flowers gathered from moist rich grounds yielding generally a blue oil; whereas those, which are collected from dry commons, afford only, so far as I have observed, a green one with a greater or less admixture of yellow: the decoction remaining after the separation of this volatile principle, leaves, on being inspissated, a dark brownish mass, ungratefully austere, bitterish, and somewhat saline. On inspissating the yellowish tincture made in rectified spirit, scarcely any thing of the flavour of milfoil exhales or distils with the menstruum: the remaining deep yellow extract is more agreeable in smell than the flowers themselves, of a moderately warm penetrating taste, somewhat like that of camphor, but much milder, accompanied with a slight bitterishness and subastringency.

M I L L E P E D Æ.

MILLEPEDÆ Pharm. Lond. Millepedæ seu aselli Pharm. Edinb. Centipedes & onisci Quibusdam. MILLEPEDES, WOOD-LICE, HOG LICE, SLATERS, SOWS, CHURCH BUGS: an oblong insect, with fourteen feet, notched along the sides, rolling itself up into a round ball on being touched; found in cellars, and under stones and logs of wood in cold moist places; rarely met with in the warmer climates. Those which have a white silver-like hue, are accounted the best; and the black the worst.

MILLEPEDES have a faint disagreeable smell, and a somewhat brackish, sweetish, unpleasant taste. They are celebrated as resolvents, aperients, and diuretics; in jaundices, asthmas, scrophulous and other disorders; but that their virtues are so great as they are generally supposed to be, may be justly questioned, at least when given in the customary doses. I have known two hundred taken every day for some time together, without producing any remarkable effect: in large doses, indeed, it is probable that their activity may be considerable;

rable; as they are said to have sometimes produced an universal heat and thirst with a pain in the region of the pubes (*a*), and sometimes a scalding of urine (*b*).

These insects may be commodiously swallowed entire, as they spontaneously contract themselves, on being touched, into the form of a pill. In the shops they are commonly reduced into powder; for which purpose they are prepared, either by inclosing them in a thin canvas cloth, and suspending them over hot spirit of wine in a close vessel, till they are killed by the steam and rendered friable*; or by including them in a proper vessel and drying them with a very gentle heat†. Of the extraction of their active matter by menstrua, no direct experiments have been made: it is rather by expression, than on the principle of extraction or dissolution, that their virtues are commonly endeavoured to be obtained in a liquid form; though some liquors are generally added previously to the expression, partly to improve their virtue for particular intentions, partly to preserve the animal juice from corruption, and partly to render it more completely separable. The college of Edinburgh directs two ounces of live millepedes to be slightly bruised, and digested for a night in a pint of rhenish wine, after which the liquor is to be pressed through a strainer‡.

* Millepedæ
præparatæ
Pharm. Lond.
† Ph. Edinb.

‡ Vinum mil-
lepedatum
Pharm. Edinb.

M O L D A V I C A.

MOLDAVICA seu *Melissa turcica*: an *Melissa americana trifolia* odore gravi Tourn. inst.? *Camphorosma* Morison. hist. ox.?

TURKEY or rather CANARY BALM, commonly called BALM-OF-GILEAD: a plant with square stalks, and acuminate leaves, slightly and obtusely indented, set generally three on one pedicle: of each three, the ^{second one} ~~one~~ end is largest, and the other two are nipt at the bottom on the upper side, or do not reach so far down their middle ribs on that side as on the other: the pedicles stand in pairs at the joints, with similar sets of smaller leaves in their bosoms. On the tops come forth thick spikes, or heads, of pretty large, reddish, labiated flowers; whereof, both the upper and lower lip are cut into two parts, and the cup into five. It is perennial, a native of the Canary islands, and scarcely bears the winters of our climate without shelter.

3 C

THIS

(a) Frid. Hoffmann, *De mat. med. regn. animal. cap. 13. Opera omnia, suppl. ii. par. iii. p. 157.*

(b) Fuller, *Pharmacopœia extemporanea, sub Express. milleped. simp.*

THIS or some of the other species of the Turkey balm (of which there are several) is greatly commended by Hoffmann, for strengthening the tone of the stomach, and the nervous system: in this country, it has not yet been, though it seems to have a good claim to be, received among the medicinal plants. The leaves and flowery tops have a fragrant smell, somewhat resembling that of balm, but far stronger, and approaching to that of the fine balsam from which the plant received its name. Their taste is likewise agreeable, but so covered with the aromatic flavour, that its particular species is not easily determined: when the herb is infused in water, and the aromatic part dissipated by inspissating the filtered infusion, the remaining extract presses on the palate a moderately strong, though only momentary, pungency and bitterness. In distillation with water, it yields a fragrant essential oil *.

*Oleum syriæ
Germanis qui-
busdam.

M O S C H U S.

MOSCHUS Pharm. Lond. & Edinb. MUSK: an odoriferous, grumous substance: found in a little bag, situated near the umbilical region of an oriental quadruped, which is said by some to bear the greatest resemblance to the goat, by others to the stag kind. The best musk is brought from Tonquin in China, an inferior sort from Agria and Bengal, and a still worse from Russia.

Fine musk comes over in round thin bladders, generally about the size of pigeons eggs, covered with short brown hairs, well filled, and without any aperture or any appearance of their having been opened. The musk itself is dry, with a kind of unctuousity; of a dark reddish brown or rusty blackish colour; in small round grains, with very few hard black clots; perfectly free from any sandy or other visible foreign matter. Chewed, and rubbed with a knife on paper, it looks bright, yellowish, smooth and free from grittiness. Laid on a red hot iron, it catches flame, and burns almost intirely away, leaving only an exceeding small quantity of light greyish ashes: if any earthy substances have been mixed with the musk, the quantity of the residuum will discover them.

THIS concrete has a bitterish subacid taste; and a fragrant smell, agreeable at a distance, but so strong as to be disagreeable when smelt near to, unless weakened by a large admixture of other substances. A small quantity, macerated for a few days in rectified spirit of wine, imparts a deep colour, and a strong impregnation to the spirit: this
tincture,

tincture, of itself, discovers but little smell, the spirit covering or suppressing the smell; but on dilution it manifests the full fragrance of the musk, a drop or two communicating to a quart of wine or watery liquors a rich musky scent. The quantity of liquor which may thus be flavoured by a certain known proportion of musk, appears to be the best criterion of the genuineness and goodness of this commodity; a commodity, which is not only said to vary in goodness according to the season of its being taken from the animal (*a*), but which is oftentimes so artfully sophisticated, that the abuses cannot be discovered by any external characters, or by any other known means than the degree of its specific smell and taste, which the above experiment affords the most commodious method of measuring. The rectified spirit takes up completely the active matter of the musk; watery liquors extract it only in part. The shops endeavour to procure an union of its virtues with water by the intervention of sugar: twelve grains of musk and a dram of fine sugar are thoroughly ground together, and six ounces by measure of damask rose water added by degrees*: this intermedium, however, does not answer so effectually as could be wished; the mixture, at first turbid, becoming clear on standing for a little time, and depositing, along with the feculent matter, a great share of the medicinal parts of the musk: the most successful medium for uniting musk with water, appears to be mucilage of gum-arabic. By distillation, water becomes strongly impregnated with the scent of the musk, and seems to elevate all its odoriferous matter; while rectified spirit, on the contrary, brings over little or nothing of it.

* Julepum e
moscho P. L.

Musk, a medicine of great esteem in the eastern countries, has lately come into use among us also, in some nervous disorders: though liable, by its strong impression on the organs of smell, to offend and disorder hysterical persons and constitutions of great sensibility, yet, when taken internally, it is found to abate symptoms of that kind which its smell produces, and to be one of the principal medicines of the antispasmodic class. Dr. Wall informs us, that two persons labouring under a *subfultus tendinum*, extreme anxiety, and want of sleep, occasioned by the bite of a mad dog, were perfectly relieved by two doses of musk of sixteen grains each: that convulsive hiccups, attended with the worst symptoms, were removed by a dose or two of ten grains: that in some cases, where this medicine could not, on account of strong convulsions, be administered by the mouth, it proved of service

3 C 2

(a) Strahlenberg, *Descript. Russ. Siber.* &c. p. 340.

service when injected as a glyster : that he never met with any person, how averse soever to perfumes, but could take it in the form of a bolus without inconvenience : that under the quantity of six grains, he never found much effect from it, but that when given to ten grains and upwards, it produces a mild diaphoresis, without heating or giving any uneasiness, but on the contrary, abating pain and raising the spirits ; and that after the sweat has begun, a refreshing sleep generally succeeds (*a*). This medicine has been tried also in some maniacal cases ; in which it seemed to procure a temporary relief.

M O X A.

MOXA *sive lanugo artemisiæ japonicæ Pharm. Paris.* *MOXA* : a soft lanuginous substance, prepared in Japan, from the young leaves of a species of mugwort, by beating them, when thoroughly dried, and rubbing them betwixt the hands, till only the fine fibres are left. A like substance is said, in the German ephemerides, to have been obtained, by treating the leaves of our common mugwort in the same manner.

Moxa is celebrated in the eastern countries, for preventing and curing many disorders, by being burnt on the skin : a little cone of moxa, laid on the part previously moistened, and set on fire at top, burns down with a temperate glowing heat, and produces a dark coloured spot, the exulceration of which is promoted by applying a little garlic, and the ulcer either healed up when the eschar separates, or kept running for a length of time, as different circumstances may require. A fungous substance, found in fissures of old birch trees, is said to be in common use among the Laplanders for the same purposes (*b*) ; and some have used cotton, impregnated with a solution of nitre, and afterwards dried, which answers the end as effectually as the moxa of the Japanese (*c*). It is obvious, that all these applications are no other than means of producing an exulceration of the skin, and its consequence a drain of humours.

(*a*) *Philosoph. Transact.* N° 474.

(*b*) *Linnaeus. Flora lapponica*, p. 264.

(*c*) *Hagendorn, Cynobactylgia*, p. 74.

MYROBALANI.

MYROBALANI Pharm. Paris. MYROBALANS : dried fruits, of the plum kind, brought from the east Indies. Five sorts have been distinguished in the shops.

1. MYROBALANI BELLIRICÆ: *Myrobalani rotundæ belliricæ, arabibus belleregi, &c. C. B.* Belliric myrobalans : of a yellowish grey colour, and an irregularly roundish or oblong figure, about an inch in length.

2. MYROBALANI CITRINÆ: *Myrobalani teretes citrini bilem purgantes C. B.* Yellow myrobalans : somewhat longer than the preceding, with generally five large longitudinal ridges, and as many smaller between them.

3. MYROBALANI CHEBULÆ: *Myrobalani maximi angulosi pituitam purgantibus, arabibus quebolia, &c. C. B.* Chebule myrobalans : resembling the yellow in figure and ridges, but larger, and of a darker colour inclining to brown or blackish.

4. MYROBALANI EMBLICÆ, *arabibus embelgi, &c. C. B.* *Myrobalani emblicæ in segmentis nucleum habentes angulosæ J. B.* Emblic myrobalans : of a dark blackish grey colour, roundish, about half an inch thick, with six hexagonal faces opening from one another.

5. MYROBALANI INDICÆ: *Myrobalani nigrae octangulares C. B.* Indian or black myrobalans : of a deep black colour, oblong, octangular, differing from all the others in having no stone, or only the rudiments of one ; from whence they are supposed to have been gathered before maturity.

ALL the myrobalans have an unpleasant, bitterish, very austere taste ; and strike an inky blackness with solution of chalybeate vitriol. They are said to have a gently purgative, as well as an astringent and corroborating virtue ; and are directed to be given, in substance from half a dram to four drams, and in infusion or slight decoction from four to twelve drams. It is said also, that the fruit in substance acts barely as a styptic, without exerting its purgative quality ; that this last is discovered only in the infusions (a), and that by boiling it is dissipated.

(a) Geoffroy. *Traité de materia medica*, tom. ii. p. 332.

dissipated or destroyed (a). A difference of this kind, between the fruit and its infusions, might be easily conceived, if the astringency of the myrobalans was not extracted by watery liquors, but the contrary of this was found on trial to be true; the infusions, decoctions, and the decoctions inspissated to the consistence of an extract, being strongly styptic. In this country, they have long been entire strangers to practice, and are now discarded, by the colleges both of London and of Edinburgh, from their catalogue of officinals.

M Y R R H A.

MYRRHA Pharm. Lond. & Edinb. MYRRH: a gummy resinous concrete juice, of an oriental tree of which we have no certain account. It comes over in glebes or drops, of various colours and magnitudes: the best sort is somewhat transparent, friable, in some degree unctuous to the touch, of an uniform brownish or reddish yellow colour, often streaked internally with whitish semicircular veins; of a moderately strong, not disagreeable smell; and a lightly pungent, very bitter taste, accompanied with an aromatic flavour but not sufficient to prevent its being nauseous to the palate. There are sometimes found among it hard shining pieces, of a pale yellowish colour, resembling gum-arabic, of no taste or smell: sometimes masses of bdellium, darker coloured, more opaque, internally softer than the myrrh, and differing from it both in smell and taste: sometimes an unctuous gummy-resin of a moderately strong somewhat ungrateful smell, and a bitterish very durable taste, obviously different both from those of bdellium and myrrh: sometimes likewise, as Cartheuser observes, hard compact dark coloured tears, of an offensive smell, and a most ungrateful bitterness, so as, when kept for some time in the mouth, to provoke reaching. Great care is therefore requisite in the choice of this drug.

This bitter aromatic gummy-resin is a warm corroborant, deobstruent, and antiseptic. It is given from a few grains to a scruple and upwards, in uterine obstructions, cachexies, putrid fevers, &c. and often employed also as an external antiseptic and traumatic.

Myrrh dissolves almost totally in boiling water, but as the liquor cools, a portion of resinous matter subsides. The strained solution is of a dark yellowish colour, somewhat turbid, smells and tastes strongly of

(a) Benancius. *Declaratio fraudum & errorum apud pharmacopæos, è museo Bartholini*, p. 68.

of the myrrh, and retains both its taste and a considerable share of its scent, on being inspissated with a gentle heat to the consistence of an extract. By distillation with a boiling heat, the whole of its flavour arises, partly impregnating the distilled water, partly collected and concentrated in the form of an essential oil; which is in smell extremely fragrant, and rather more agreeable than the myrrh in substance, in taste remarkably mild, so ponderous as to sink in the aqueous fluid, whereas the oils of most, perhaps of all, of the other gummy-resins swim: the quantity of oil, according to Hoffmann's experiments, is about two drams from sixteen ounces, and when the myrrh is of a very good kind, near three drams.

Rectified spirit dissolves less of this concrete than water, but extracts more perfectly that part in which its bitterness, flavour, and virtues reside: the resinous matter, which water leaves undissolved, is very bitter; but the gummy matter, which spirit leaves undissolved, is insipid, the spirituous solution containing all the active parts of the myrrh. Tinctures of myrrh, made by digesting three ounces of the concrete in a quart of rectified * or proof † spirit, are kept in the shops, and given sometimes internally from fifteen drops to a tea spoonful, but oftener used among us externally for cleansing ulcers and promoting the exfoliation of carious bones: both tinctures are of a reddish yellow colour. In distillation, rectified spirit brings over little or nothing of the flavour of the myrrh: the extract, obtained by inspissating the tincture, is a fragrant, bitter, very tenacious resin, amounting to one third or more of the weight of the myrrh employed.

Tinc. myrrhæ
* Pharm. Ed.
† Pharm. Lon.

M Y R T U S .

MYRTUS Pharm. Edinb. *Myrtus communis italica* Casp. Baubin.
MYRTLE: an evergreen shrub; with oblong leaves, pointed at both ends; in the bosoms of which spring solitary white pentapetalous flowers, followed by black oblong umbilicated berries full of white crooked seeds. It is a native of the southern parts of Europe, from whence the shops have been usually supplied with the berries, called *myrtilli*, which rarely come to perfection in our climate; nor does the shrub bear our severe winters without shelter.

THE berries of the myrtle, recommended in alvine and uterine fluxes and other disorders from relaxation and debility, appear to be among the milder restringents or corroborants: they have a roughish
not

M A T E R I A M E D I C A.

not unpleasant taste, accompanied with a degree of sweetishness and aromatic flavour. The leaves have likewise a manifest astringency, and yield when rubbed, a pretty strong aromatic smell agreeable to most people.

M Y R T U S B R A B A N T I C A.

MYRTHUS BRABANTICA Pharm. Paris. Gale, frutex odoratus septentrionalium, *elæagnus cordo*, *chamælæagnus dodonæo* J. B. GAULE, SWEET WILLOW, DUTCH MYRTLE: a small shrub, much branched; with oblong, smooth, whitish green leaves, somewhat pointed or converging at each end; among which arise pedicles bearing flowery tufts, and separate pedicles bearing scaly cones which include the seeds, one little seed being lodged in each scale. It grows wild in waste watery places in several parts of England: in the isle of Ely it is said to be very plentiful. It flowers in May or June, ripens its seeds in August, and loses its leaves in winter.

THE leaves, flowers, and seeds of this plant have a strong fragrant smell, and a bitter taste. They are said to be used among the common people, for destroying moths, and cutaneous insects, being accounted an enemy to insects of every kind; internally, in infusions, as a stomachic and vermifuge; and, as a substitute to hops, for preserving malt liquors, which they render more inebriating, and of consequence less salubrious (a).

N A P U S.

NAVEW: a plant of the turnep kind, with oblong roots growing slenderer from the top to the extremity. Two sorts of it, ranked among the articles of the materia medica, are supposed by Linnæus to be only varieties, and are therefore joined into one species, under the name of *brassica radice caulescente fusiformi*. They are both biennial.

I. NAPUS, *napus dulcis officinarum* Pharm. Lond. *Napus sativa* C. B. Garden or sweet navew, or French turnep: cultivated for the culinary use of its roots, which are warmer and more grateful than those of the common turnep, and are said to afford likewise, in their decoctions, a liquor beneficial in disorders of the breast. The seeds, in figure roundish and in colour reddish, are the part principally directed

(a) Ray, *Historia plantarum*, tom. ii. p. 1707.

directed for medicinal purposes: they have a moderately pungent taste, somewhat approaching to that of mustard seed, of the virtues of which they appear to partake: with mustard seed they agree also in their pharmaceutic properties, their pungent matter being taken up completely by water and only partially by rectified spirit, and being dissipated in the inspissation of the watery infusion, only an unpleasant bitterishness remaining in the extract. As the navew seeds, nearly similar in kind to those of mustard, are apparently much inferior in degree, the college of Edinburgh has discarded them, and that of London retains them only as an ingredient in theriaca.

2. BUNIAS *Pharm. Paris.* *Napus silvestris C. B.* Wild navew or rape: growing on dry banks and among corn: with leaves somewhat different from those of the preceding, being more like those of cabbages than of turneps; the root smaller, and of a stronger unpleasant taste; and the seeds also rather more pungent, on which account they are preferred by the faculty of Paris. The seeds of both kinds yield upon expression a large quantity of oil: the oil called rape-oil is extracted from the seeds of the wild sort, which is cultivated in abundance, for that use, in some parts of England. The cake, remaining after the expression of the oil, retains, like that of mustard, the acrimony of the seeds.

N A R D U S C E L T I C A.

NARDUS CELTICA Pharm. Lond. & Edinb. *Nardus celtica dioscoridis C. B.* *Valeriana celtica Tourn.* *Spica celtica & salunca quibusdam.* CELTIC NARD: a small species of valerian, with uncut, oblong, obtuse, somewhat oval leaves. It is a native of the Alps, from whence the shops have been generally supplied with the dried roots, consisting of a number of blackish fibres, with the lower parts of the stalks adhering; which last are covered with thin yellow scales, the remains of the withered leaves.

THIS root has been recommended as a stomachic, carminative, and diuretic: at present, it is scarcely otherwise made use of, in this country, than as an ingredient in mithridate and theriaca, though its sensible qualities promise some considerable medicinal powers. It has a moderately strong smell, and a warm bitterish subacid taste, somewhat resembling those of common wild valerian: an extract made

from it by rectified spirit has a strong, penetrating taste, and retains in good measure the particular flavour, as well as the bitterness and pungency of the root.

N A R D U S I N D I C A.

NARDUS INDICA Pharm. Lond. *Nardus indica sive spica nardi* Pharm. Edinb. *Nardus indica quæ spica, spica nardi, & spica indica officinarum* C. B. INDIAN NARD OR SPIKENARD: the bushy top of the root, or the remains of the withered stalks and ribs of the leaves, of an Indian grassy-leaved plant of which we have no particular description. The nard, as brought to us, is a congeries of small tough reddish brown fibres; cohering close together, but not interwoven, so as to form a bunch or spike about the size of a finger: sometimes two or three bunches issue from one head, and sometimes bits of leaves and stalks in substance are found among them.

THE Indian nard, now kept in the shops chiefly as an ingredient in the mithridate and theriaca, was formerly employed in the same intentions as the Celtic, and is said to be used among the orientals as a spice. It is moderately warm and pungent, accompanied with a flavour not disagreeable.

N A S T U R T I U M A Q U A T I C U M.

NASTURTIIUM AQUATICUM Pharm. Lond. & Edinb. *Nasturtium aquaticum supinum* C. B. *Sisymbrium aquaticum* Tourn. *Cressio quibusdam*. WATER CRESSES: a juicy plant, with brownish, oblong, obtuse leaves, set nearly in pairs, without pedicles, on a middle rib, which is terminated by an odd one larger and longer-pointed than the rest: the stalks are hollow, pretty thick, channelled, and crooked: on the tops grow tufts of small tetrapetalous white flowers, followed by oblong pods, which bursting throw out a number of roundish seeds. It grows in rivulets and the clearer standing waters, and flowers in June: the leaves remain green all the winter, but are in greatest perfection in the spring.

THE leaves of the water cresses have a moderately pungent taste; and, when rubbed betwixt the fingers, emit a quick penetrating smell, like that of mustard seed but much weaker. Their pungent matter is taken

taken up both by watery and spirituous menstrea, and accompanies the aqueous juice which issues copiously upon expression: it is very volatile, so as to arise, in great part, in distillation with rectified spirit as well as with water, and almost totally to exhale in drying the leaves, or inspissating by the gentlest heat, to the consistence of an extract, either the expressed juice, or the watery, or spirituous tinctures: both the inspissated juice and the watery extract discover to the taste a saline impregnation, and in keeping throw up crystalline efflorescences to the surface. On distilling with water considerable quantities of the herb, a small proportion of a subtile, volatile, very pungent essential oil is obtained.

This herb is one of the milder acrid, aperient, antiscorbutics; of the same general virtues with the *cochlearia*, but considerably less pungent, and in great measure free from the peculiar flavour which accompanies that plant. Hoffmann has a great opinion of it, and recommends it as of singular efficacy for strengthening the viscera, opening obstructions of the glands, promoting the fluid secretions, and purifying the blood and humours: for these purposes, the herb may be used as a dietetic article, or the expressed juice taken in doses of from one to four ounces twice or thrice a day.

N A S T U R T I U M H O R T E N S E.

NASTURTIUM HORTENSE Pharm. Edinb. *Nasturtium hortense vulgatum* C. B. GARDEN CRESSES: a low plant; with variously cut winged leaves, bearing on the top of the round stalk and branches tufts of tetrapetalous white flowers, which are followed by roundish capsules, flattened on one side, full of reddish round seeds. It is annual, and raised in gardens.

THE garden cress is an useful dietetic herb in scorbutic habits, viscidities of the juices, obstructions of the viscera, and for promoting digestion; nearly of the same quality with the water cress, but somewhat milder. The seeds are considerably more pungent than the leaves, and agree in their general qualities with those of mustard.

N A T R O N.

N A T R O N.

NATRON, *anatron*, *soude blanche*, *Pharm. Paris.* *Nitrum antiquorum*; *apbronitrum*; *baurack*. *NATRON*, OR MINERAL FIXT ALKALINE SALT. This salt is contained in great abundance in the waters of the ocean, and makes the basis of the neutral salt so plentifully extracted from them for alimentary uses. It is likewise discoverable in sundry mineral springs, even of those which do not participate of sea salt; and in some of the eastern countries it is said to be found in considerable quantities on the surface of the earth, sometimes pure, but more commonly blended with various heterogeneous matters, from which it is extracted by means of water. The alkali called *soda*, prepared by incinerating the maritime plant *kali* or *glaswort*, contains a salt of the same kind.

THE mineral alkali agrees in its general qualities with the common lixivial salts of vegetables. The differences which have been observed are, that it is milder and less acrid in taste: that when dissolved in water, it concretes, on evaporation, into a cake, which appears a congeries of small crystals: that when exposed to the air, though it grows moist on the surface, it does not run into a liquid form: that the neutral salt, resulting from its coalition with the vitriolic acid, is very easily dissoluble in water and fusible in the fire: that with the nitrous acid it forms cubical crystals; and with the marine, perfect sea salt. Its medicinal differences from the common lixivial salts, in its pure state, are not well known; but in combination with acids, they are apparent. See *sal commune*, *sal catharticus glauberi*, &c.

N E P E T A.

NEPETA *Pharm. Lond.* *Nepeta seu mentha cataria* *Pharm. Edinb.* *Mentha cataria vulgaris*, & *major* *C. B.* *Cataria* & *herba felis quibusdam*. *NEP*, OR *CATMINT*, so called from its being often destroyed by cats: a hoary plant; with square stalks; heart-shaped, acuminate, serrated leaves, set in pairs on long pedicles; and whitish labiated flowers standing in spikes on the tops of the branches: the upper lip of the flower is divided into two, the lower into three sections. It is sometimes found wild in hedges and on dry banks, and flowers in June.

THE

THE leaves of catmint have a moderately pungent aromatic taste, and a strong smell, not ill resembling that of a mixture of spearmint and pennyroyal; of the virtues of which herbs, in weakneses of the stomach, and more particularly in uterine disorders, they appear also to participate. Their active matter is extracted both by water and rectified spirit, most perfectly by the latter: the watery tinctures are of a greenish yellow or brownish colour, the spirituous of a deep green. In distillation with water, they yield a yellowish essential oil, smelling strongly of the catmint, but rather less agreeable than the herb itself: the remaining decoction is ungratefully bitterish and subastringent. Rectified spirit elevates likewise a part of the smell and aromatic warmth, but leaves the greatest share behind concentrated in the extract, which proves more grateful than the leaves in substance, having more of the mint and less of the pennyroyal flavour.

N E P H R I T I C U M L I G N U M.

NEPHRITICUM LIGNUM Pharm. Edinb. Lignum peregrinum aquam cæruleam reddens C. B. NEPHRITIC WOOD: an American wood, brought to us in large compact ponderous pieces, without knots: the outer part is of a whitish or pale yellowish colour, the medullary substance of a dark brownish or reddish. This wood, macerated in water for half an hour or an hour, imparts a deep tincture, appearing, when placed betwixt the eye and the light, of a golden colour, in other situations of a fine blue: a property in which it agrees with the bark of the ash tree, and differs from all other known woods. Pieces of a different kind of wood, are often mixed with it, which give only a yellow tincture to water.

NEPHRITIC wood has a slightly bitterish somewhat pungent taste; and in rasping or scraping emits a faint smell of the aromatic kind. The blue watery tincture has neither smell nor taste: but a strong infusion, which appears not blue, but of a dark brownish colour, is manifestly bitter, and smells pretty agreeably; inspissated, it leaves a blackish brown extract, in which the bitterness is more considerable, and accompanied with a slight astringency. A saturated tincture made in rectified spirit, is of a blackish red colour: the extract, obtained by inspissating it, is a tenacious resin, larger in quantity and weaker in taste than the watery extract. According to Cartheuser, the spirituous extract amounts to about one fifth, the watery only to one twelfth the weight

weight of the wood. Both menstrea seem to extract the whole of the active matter; for if the wood remaining after the action of the one, be digested or boiled in the other, and the liquors inspissated, the extracts thus obtained have neither smell nor taste.

This wood stands greatly recommended in difficulties of urine, nephritic complaints, and all disorders of the kidneys and urinary passages; and is said to have this peculiar advantage, that it does not, like the warmer diuretics, heat or offend the parts: the blue aqueous tincture is directed to be used as common drink, and fresh water to be poured on the remaining wood so long as it communicates any blueness. For my own part, I have never known its being given medicinally, nor is it received in practice: Geoffroy says he has seen some instances of its being used without success; and indeed, whatever may be the virtues of strong infusions or extracts of the wood, the exceedingly dilute blue tincture cannot be expected to have much efficacy.

N I C O T I A N A.

TOBACCO: a plant with alternate leaves, and monopetalous tubulous flowers divided into five sections: the flower is followed by an oval capsule, which opening longitudinally sheds numerous small seeds.

I. NICOTIANA *Pharm. Lond.* *Nicotiana five petum, Pharm. Edinb.* *Nicotiana major latifolia C.B. Tabacum.* Tobacco: with large, sharp pointed, pale green, soft leaves, about two feet in length, joined immediately to the stalk without pedicles. It was brought into Europe by M. Nicot, from the island Tobago in America, about the year 1560, and is now cultivated for medicinal use in our gardens. It is perennial, as is said, in America; and annual with us.

THE leaves of tobacco have a strong disagreeable smell, and a very acrid burning taste. They give out their acrid matter both to water and spirit, most perfectly to the latter: the aqueous infusions are of a yellow or brown colour, the spirituous of a deep green. They yield nothing considerable in distillation with either menstruum: nevertheless their acrimony is greatly abated in the inspissation of the tinctures, the watery extract being less pungent than the leaves themselves, and the spirituous not much more so. The several sorts of tobacco brought from abroad, are stronger in taste than that of our own growth, and the extracts made from them much more fiery, but in less quantity.

Tobacco taken internally even in a small dose, or decoctions of it
used

used as a glyster, prove virulently cathartic and emetic, occasioning extreme anxiety, vertigoes, stupors, and disorders of the senses: some have nevertheless ventured upon it both as an evacuant, and in minuter quantities as an aperient and alterant, in epilepsies and other obstinate chronical disorders; a practice which, though in some cases it may have been successful, appears much too hazardous to be followed, particularly in the more irritable, hot, dry, bilious constitutions. By long boiling in water, its deleterious power is abated and at length destroyed: an extract made by long coction is recommended by Stahl and other German physicians, as a most effectual and safe aperient, detergent, expectorant, diuretic, &c. but the medicine must necessarily be precarious and uncertain in strength, and has never come into use among us.

The smoke of tobacco, received by the anus, is said to be of singular efficacy in obstinate constipations of the belly. Hoffmann observes that horses have often been relieved by this remedy, but in human subjects it has been rarely tried; and says he has known some of the common people, who laboured under excruciating pains of the intestines, freed in an instant from all pain by swallowing the smoke.

Tobacco is sometimes employed externally in unguents and lotions, for cleansing foul ulcers, destroying cutaneous insects, and other like purposes: it appears to be destructive to almost all kinds of insects, to those produced on vegetables as well as on animals. Beaten into a mash with vinegar or brandy, it has sometimes proved a serviceable application for hard tumours of the hypochondres (a). Some caution however is requisite even in these external uses of tobacco, particularly in solutions of continuity: there are instances of its being thus transmitted into the blood, so as to produce virulent effects. Of the common uses of the leaves brought from America, prepared in different forms, both the advantages and inconveniences are too well known to require being mentioned here.

2. NICOTIANA MINOR C. B. *Priapeia quibusdam nicotiana minor* J. B. *Tobacco anglicum* Park. English tobacco: with short, somewhat oval leaves, set on pedicles. It is annual, originally a native of America, but now propagates itself plentifully in England and other parts of Europe.

THE

(a) Mr. Stedman, *Edinburgh medical essays*, vol. ii. art. 5.

M A T E R I A M E D I C A.

THE leaves of this species are said by some to be of the same quality with those of henbane; by others, to be similar to the preceding, but weaker, which, in point of taste, they manifestly are. They have been sometimes substituted; in our markets, to the true tobacco; from which they are readily distinguishable by their smallness, their oval shape, and their being furnished with pedicles.

N I T R U M.

NITRUM Pharm. Lond. Nitrum sive sal petræ Pharm. Edinb.

NITRE or SALTPETRE: a neutral salt, formed by the coalition of the common vegetable fixt alkaline salt with a peculiar acid: of a sharp penetrating cooling taste: soluble in eight times its weight of very cold water, in less than thrice its weight of water temperately warm, and in one third its weight of boiling water: concreting from its saturated solutions, on evaporation of a part of the fluid or a gradual diminution of the heat that kept it dissolved, into colourless transparent crystals, which in figure are hexagonal prisms terminated by pyramids of the same number of sides: melting thin as water in a moderate heat: when heated to ignition, deflagrating, on the contact of any inflammable substance, with a bright flame and a considerable hissing noise; and leaving, after the detonation, its fixed alkaline salt *, the acid being destroyed in the act of accension.

* Nitrum
fixum.

The origin of nitre, or rather of the acid which makes the characteristic part of nitre, is unknown. Thus much only is known with certainty, that common waters, both atmospherical and subterraneous, often contain a little of this acid in combination with earthy or other bodies, so as to yield, by crystallization, on supplying the vegetable fixt alkali, a perfect nitre: and that when animal or vegetable substances, mixed with porous absorbent earths, have lain exposed to the air till they are thoroughly rotted, they are found in like manner to contain a small portion of nitrous acid, so as to give out a little nitre to water on being supplied with the proper alkaline basis. On this foundation, some nitre is prepared in different parts of Europe: but the greatest quantities are the produce of the East-Indies; the means by which it is there so plentifully obtained, or whether it is a natural or artificial production, have not yet, so far as I can learn, been revealed.

Nitre, as brought into the shops, has generally a greater or less admixture of sea salt; from which it is purified, by dissolving it in boiling water, and, after duly evaporating the filtered solution, setting it in a cold place to crystallize *. The more impure brown nitre * Nitrum purificatum P. L. requires repeated dissolution and crystallization: to promote the purification, it is commonly dissolved in lime water, or the solution suffered to percolate through quicklime or a mixture of quicklime and wood ashes. It is observable that nitrous solutions differ from those of most other salts in contracting no pellicle in evaporation: if a solution of rough nitre, containing sea salt, be boiled down till a pellicle appears, or till a part of the salt begins to concrete and fall to the bottom, all that thus separates is found to be sea salt, boiling water keeping far less of this salt dissolved than it does of nitre: but if the liquor be now poured off, though it should still retain a quantity of the sea salt, only the nitre will crystallize in cooling, sea salt continuing dissolved in nearly as little water when cold as was sufficient to keep it dissolved when boiling.

THIS salt is one of the principal medicines of the antiphlogistic class; of general use in disorders accompanied with inflammatory symptoms whether chronical or acute, and as a corrector of the inflammation or irritation produced by stimulating drugs. Hoffmann thinks it has an advantage above the refrigerants of the acid kind, in not being liable to coagulate the animal juices; solutions of it mingling with or dissolving recent thick blood, and in some degree preserving it from coagulation as well as corruption; at the same time changing its colour, when dark or blackish, to a crimson, an effect which it produces also, in a less degree, upon the fleshy parts of dead animals (a). It retards likewise the coagulation of milk, but seems, from Stahl's account, to increase the consistence of thin serous humours; for he observes, that when used in gargarisms for inflammations of the fauces in acute fevers, it thickens the salival fluid into a mucus, which keeps the parts moist for a considerable time, whereas, when nitre is not added, a dryness of the mouth presently ensues (b).

3 E

This

(a) Hoffmann, *De salium mediorum virtute* § 16. *De medicamentis selectioribus* § 13. *De præstantissima nitri virtute* § 5.—We cannot, however, conclude much, from these kinds of experiments, in regard to the medical powers of nitre, or its effects on the animal fluids whilst under the laws of the vital œconomy.

(b) *De usu nitri medico*, *Mensis martius*, *Opusc.* p 569.

This medicine generally promotes urine, and often gives relief in strangueries and heat of urine whether simple or proceeding from a venereal taint. It sometimes loosens the belly, particularly in hot dispositions: in cold phlegmatic temperaments it rarely has this effect, though given in very large doses, even to an ounce: the diarrhœas of acute diseases, and fluxes in other circumstances from an acrimony of the bile or inflammation of the intestines, have been frequently restrained by it. In high fevers, it often promotes a diaphoresis or sweat; in malignant fevers, where the pulse is low and the strength greatly depressed, it impedes that salutary excretion and the eruption of the exanthemata; in consequence of its general power of diminishing inflammation and heat. It seems to be prejudicial in disorders of the lungs, though some (*a*) have ventured to prescribe it in hemoptyses.

The usual dose of nitre, among us, is from two or three grains to a scruple; though in many cases it may be given with great safety, and to better advantage, in larger quantities. It has been said, that nitre loses, in being melted, half its weight of watery moisture, and recovers this weight again on being dissolved and crystallized (*b*); from whence it would follow; that one part of melted nitre is equivalent to two of the crystals: but there was probably some mistake in this experiment, for I have often repeated it with different parcels of nitre, and never found the loss to be so much as one twentieth of its weight.

• Trochisci
• nitro P. L.

Nitre may be commodiously taken in the form of troches: one part of the purified salt is commonly ground with three parts of fine sugar, and the mixture made up with mucilage of gum tragacanth*. In this and all other solid forms it is accompanied, however, with one inconvenience; being liable, especially when the dose is considerable, to occasion a pain or uneasiness at the stomach, which can be prevented only by plentiful dilution. A liquid form is therefore, in general, the most eligible, and may be easily rendered grateful by a proper addition of sugar: commonly half an ounce of nitre, and two ounces of fine sugar, with a scruple of cochineal as a colouring material, are boiled in two pints and a half of water till half a pint is wasted, and after standing to settle, the clear purplish red liquor is poured off for use†. The boiling serves only to hasten the solution, and needs not be continued longer than till the salts are dissolved, and a sufficient colour extracted from the cochineal.

† Decoctum
ni. rosarum
Pb. Ed.

THE

(*a*) Riverius, *Cent. i. obs.* 83. Stahl, *ubi supra*, & *Observ. chym. phys. med. curios.* p. 464. Tralles, *Vitium terreis ascriptorum examen* p. 246.

(*b*) Geoffroy, *Memoires d'acad. des scienc. de Paris, pour l'ann.* 1717.

THE chemists have thought to improve the virtue of nitre, by deflagration with a small portion of sulphur: they melt the nitre in a crucible, and gradually sprinkle on it one twenty-fourth its weight of flowers of sulphur: when the deflagration is over, they pour out the melted salt into clean, dry, warm brass moulds, so as to form it into little cakes *. In this process, a part of the acid of the nitre, and the inflammable principle of the sulphur, detonating together, are both destroyed; while that part of the alkali of the nitre, which is thus forsaken by its acid, unites with the acid of the sulphur, which is the same with that of vitriol, into a new neutral salt the same with vitriolated tartar; and the preparation is found to be no other than a mixture of unchanged nitre with a small portion of this vitriolated salt. If the nitre and sulphur be taken in equal quantities, the mixture injected by a little at a time into a red hot crucible, and, after the detonation ceases, kept in the fire about an hour; nearly the whole of the nitre will thus be changed; and the remaining salt, purified by solution in water †, proves almost wholly the same with vitriolated tartar.

* Sal prunellæ P. E.
Crytallus mineralis

† Sal polychrest.
Pharm. Edinb.

The same salt is produced by pouring gradually on nitre the pure acid of vitriol or sulphur: this acid, uniting with the alkali, disengages the acid of the nitre, which begins to exhale, immediately on mixture, in yellow or red fumes, and may be collected by distillation in a glass retort with a moderate fire. Some previously dilute the vitriolic acid with equal its quantity of warm water; and afterwards purify the distilled nitrous spirit from this superfluous phlegm, by a second distillation in a glass cucurbit; the watery part rising in the heat of a water-bath and leaving the more concentrated acid behind ‡. One part of oil of vitriol extricates all the acid of two parts of nitre ‡: the remaining salt is ‡ nearly a pure vitriolated salt. If three parts of nitre be used to one of the vitriolic acid ||, a part of the nitre remains unchanged: on dissolving the whole residuum in hot water, and setting the filtered solution to crystallize §, the vitriolated salt shoots first, greatest part of the nitre continuing dissolved.

‡ Spiritus nitri P. E.

|| Sp. nitri glauveri P. L.

§ Nitrum vitriolatum P. L.

The nitrous spirit is obtained also by distillation in a strong fire with vitriol in substance; the vitriol parting in the fire with its own acid, which then acts upon the nitre and extricates its acid in the same manner as when the pure vitriolic acid is used. The spirit thus distilled, called aqua fortis, is more phlegmatic than the preceding, in proportion as the vitriol employed contains more phlegm than the oil of vitriol: it is likewise liable to an admixture of the vitriolic acid, more or less of which is generally forced over. The proportions commonly

followed are, three parts of nitre, three of green vitriol uncalcined, and one and a half of the same vitriol calcined *; or one of nitre and two of vitriol calcined to whiteness †; or equal parts of nitre, calcined vitriol, and dry clay ‡, which last ingredient appears to be of very little use in the process. The ingredients are well mixed together, the distillation performed in an earthen retort or an iron pot fitted with an earthen head and a receiver, and continued so long as any red vapours arise.

* Aqua fortis
Pharm. Lond.
† simpl. P.E.
‡ duplex P.E.

THE nitrous spirit, usually distilled from rough nitre, contains often an admixture of the marine acid as well as of the vitriolic. The first is discovered, and separated, by dropping in a little solution of silver, the latter by a solution of chalk or any other calcareous earth, made in the pure nitrous acid; the silver absorbing the marine acid; and the chalk the vitriolic, and forming with those acids, respectively, indissoluble concretes, which immediately render the liquor milky, and on standing settle to the bottom. The solutions are to be cautiously and slowly dropt in, so long only as they continue to produce a milkiness; in case of an excess in their quantity, if the spirit is required perfectly pure it is to be rectified by redistillation.

|| Aqua regia
Pharm. Edinb.

By the property on which the above method of purification depends, the nitrous spirit may be readily distinguished from the other two mineral acids. By the red or yellowish red colour of its fumes; by its forming with one fourth its weight of sal ammoniac ||, or with sea salt or its acid, a menstruum that perfectly dissolves gold; by its deflagrating on the contact of any inflammable matter, when heated to ignition, whatever other body it be previously combined with; it may with certainty be distinguished both from those and from every other known species of acid.

This acid has been sometimes given as a diuretic, from two or three to fifty drops, diluted largely with water: but its principal use is in combination with other bodies.

§ Nitrum
cubicum.
** Nitrum
flammans,
volatile, five
ammoniacale.

Combined with vegetable fixt alkalies, it reproduces common nitre. With the mineral fixt alkali or *soda*, it composes a species of nitre in some respects different from the common, crystallizing not into a prismatic but a cubical figure §; with volatile alkalies, a subtile pungent salt remarkable for its solubility in spirit of wine **: of these two compounds, the medicinal qualities are little known, though they should seem to be well deserving of enquiry. The acid, in the most concentrated state in which it is commonly met with, saturates about

five sixths its weight of vegetable fixt alkali (a), but of volatile alkali little more than half its weight (b). For obtaining the combination with the mineral alkali, sea salt may be used equally with *soda* or the alkali in its pure state; for the nitrous acid extricates the sea-salts acid and unites with only its pure alkaline basis (see *sal commune*.)

Solutions of calcareous earths in this acid are in taste bitterish and very pungent. They are difficultly made to assume a crystalline appearance; and when evaporated and exsiccated by heat, the dry salt deliquesces again in the air. This salt has not hitherto been employed medicinally, nor is it as yet much known. It is a common ingredient in waters, which when its quantity is considerable, it renders hard and indisposed to putrefy, apparently impeding putrefaction in a much greater degree than an equal quantity of sea salt. Alkaline salts, fixt or volatile, added to the solutions, precipitate the earthy basis; and uniting with the acid in its stead, compose therewith, according to the species of alkali employed, the common, cubical, or ammoniacal nitre mentioned in the preceding paragraph.

Nitrum calca-
reum verum.

The nitrous spirit dissolves zinc, iron, copper, bismuth, lead, mercury, and silver, the most readily of all the acids: tin it dissolves imperfectly: regulus of antimony it only corrodes: see the respective metals.

The concentrated acid, combined with a due proportion of rectified spirit of wine, loses its acidity; the coalition of the two producing a new compound, of a gratefully pungent taste and odour, and which is given from a few drops to a tea spoonful or more as mildly aperient, diuretic, antiphlogistic, in some degree anodyne and antispasmodic. On mixing the two spirits together, a great heat, ebullition, and noxious red vapours arise: this conflict is less violent when, cautiously, and by little and little, the acid spirit is added to the vinous, than when the vinous is added to the acid. One part of the strong acid spirit is commonly taken to three of the spirit of wine *, or half a pound to a quart †: the mixture, after standing for some time that the two liquors may in some degree unite, is set to distill with a gentle fire, by which the union is completed, and the very volatile ‡ dulcified spirit separated from the more fixt acid that remains undulcified. The distillation is directed to be continued so long as the spirit that comes over raises no effervescence with fixt alkaline salts; it may be regulated more commodiously

* Spiritus.
nitri dulcis
† *Pb. Ed.*

‡ *Pb. Lond.*

(a) Homberg, *Memoires de l'acad. roy. des scienc. de Paris*, pour l'ann. 1699.

(b) Du Hamel, dans les mêmes memoires. pour l'ann. 1735.

commodiously by performing the process in a water bath, for all that rises in this heat will be found to be a pure dulcified spirit.

Nitrous
ether.

A subtile ethereal fluid, similar in its general qualities to that described under the head of the vitriolic acid, is obtainable with the nitrous in a more compendious manner. If equal parts by measure of spirit of nitre and spirit of wine, of moderate strength, be mixed together, the bottle closely stoppt, and set in a cool place, a large proportion of ether rises to the surface in a few days: it may be purified from the adhering acid, by shaking it with water in which some fixt alkaline salt has been dissolved, and then drawing off the ether by distillation. The medicinal qualities of this subtile fluid are not as yet known.

N U M M U L A R I A.

NUMMULARIA Pharm. Paris. Nummularia major lutea C. B. Hirundinaria & centimorbia quibusdam. MONEYWORT: a low creeping plant, with square stalks, and smooth little roundish leaves set in pairs at the joints upon short pedicles: in their bosoms appear yellow solitary monopetalous flowers, each divided into five oval segments, and followed by a small round capsule full of minute seeds. It is perennial, grows wild in moist grounds, and flowers from May to near the end of summer.

This herb is accounted restraining, antiscorbutic, and traumatic. Boerhaave looks upon it as similar to a mixture of scurvygrass with sorrel: it appears indeed to have some degree both of pungency and acidity, but it is far weaker than those herbs or than any mixture of the two.

N U X M O S C H A T A.

NUX MOSCHATA Pharm. Lond. Nux moschata & nux myristica Pharm. Edinb. Nux myristica fructu rotundo C. B. Nucista. NUTMEG: the aromatic kernel of a large nut, produced by a tree said to resemble the pear tree, growing in the East Indies. The outer part of the fruit is a soft fleshy substance like that of the walnut, which spontaneously opens when ripe: under this lies a red membrane called mace (see *macis*) forming a kind of reticular covering through the fissures of which is seen the hard woody shell that includes the nutmeg.

meg. Two sorts of this kernel are distinguished: one of an oblong figure, called male; the other roundish or of the shape of an olive, called female: this last is the officinal species, being preferred to the other on account of its stronger and more agreeable flavour, and its being, as is said, less subject to become carious. The nutmegs are cured, according to Rumphius, by dipping them in a somewhat thick mixture of lime and water, that they may be every where coated with the lime, which contributes to their preservation.

THE nutmeg is a moderately warm, grateful, unctuous spice; supposed to be particularly useful in weakness of appetite, and the nausea and vomitings accompanying pregnancy, and in fluxes; but liable, when taken too freely, to sit very uneasy on the stomach, and, as is said, to affect the head. Roasted with a gentle heat, till it becomes easily friable *, it proves less subject to these inconveniences, and is supposed likewise to be more useful in fluxes.

* Nux mosch.
torrefacta. *PL.*

Nutmegs, distilled with water, yield nearly one sixteenth (a) their weight of a limpid essential oil †, very grateful, possessing the flavour of the spice in perfection, and which is said to have some degree of an antispasmodic or hypnotic (b) power: on the surface of the remaining decoction is found floating an unctuous concrete matter like tallow, of a white colour, nearly insipid, not easily corruptible, and hence recommended as a basis for odoriferous balsams: the decoction, freed from this sebaceous matter, and inspissated, leaves a weakly bitter subastringent extract. Rectified spirit takes up, by maceration or digestion, the whole smell and taste of the nutmegs, and receives from them a deep bright yellow colour: the spirit, drawn off by distillation from the filtered tincture, is very slightly impregnated with their flavour; greatest part of the specific smell, as well as the aromatic warmth, bitterishness and subastringency of the spice remaining concentrated in the extract. The essential oil, and an agreeable cordial water, lightly flavoured with the volatile parts of the nutmeg by drawing off a gallon of proof spirit from two ounces of the spice ‡, are kept in the shops. Both the oil, and the spirituous tincture and extracts, agree better with weak stomachs than an equivalent quantity of the nutmegs in substance.

† Ol. still. seu
essent. nucis
mosch. *PL&E.*

‡ Aqua nucis
mosch. *P. L.*

Nutmegs,

(a) Hoffmann, *Observationes physico-chymicæ. lib. i. obs. 1.*

(b) *Miscell. nat. curios. dec. III. ann. ii. obs. 120.* Bontius, *de medicina Indorum, p. 20.*

Nutmegs, heated, and strongly pressed, give out a fluid yellow oil, which concretes on growing cold into a sebaceous consistence. Rumphius informs us, that in the spice islands, when the nuts are broken, those kernels which appear damaged, carious, or unripe, are separated for this use, and that seventeen pounds and a quarter of such kernels yield only one pound of oil, whereas, when the nutmeg is in perfection, it is said to afford near one third its own weight.

* Ol. nuc.
moschatæ
expressum,
macis vulgo
dictum
Ph. L. & Ed.

Two kinds of sebaceous matter, said to be expressed from the nutmeg, are distinguished in the shops by the name of oil of mace *: the best sort, brought from the East Indies in stone jars, is somewhat soft, of a yellow colour, and of a strong agreeable smell greatly resembling that of the nutmeg itself: the other comes from Holland in solid masses, generally flat and of a square figure, of a paler colour and much weaker smell. These oils are employed chiefly externally in stomach plasters, and in anodyne and nervine unguents and liniments. They appear to be a mixture of the gross sebaceous matter of the nutmeg with a little of the essential or aromatic oil; both which may be perfectly separated from one another by maceration or digestion in rectified spirit, or by distillation with water. The spirituous tincture, and the distilled water, and the essential oil, are nearly similar to those drawn from the nutmeg itself, the pure white sebaceous substance being left behind.

N U X P I S T A C I A.

NUX PISTACIA Pharm. Edinb. PISTACHIO or fistic nut: an oblong, pointed nut, about the size of a filberd; including a kernel of a pale greenish colour, covered with a reddish skin. It is the produce of a large tree, with winged leaves resembling those of the ash, *pistacia peregrina fructu racemoso sive terebinthus indica theophrasti C. B.* which grows spontaneously in the eastern countries, and bears the colds of our own.

PISTACHIO nuts have a pleasant sweetish unctuous taste, resembling that of sweet almonds: their principal difference from which consists in their having rather a greater degree of sweetness, accompanied with a light grateful flavour, and in being more oily, and hence somewhat more emollient, and perhaps more nutritious. They have been ranked among the principal analeptics, and greatly esteemed by some in certain weaknesses and emaciations. They are taken chiefly in substance,
their

their greenish hue rendering them unfightly in the form of an emulsion. They are very liable to grow rancid in keeping.

NUX VOMICA.

NUX VOMICA Pharm. Paris. *Nux metella.* VOMIC NUT : a flat roundish seed or kernel, about an inch broad and near a quarter of an inch thick, of a grey colour, covered with a kind of woolly matter, internally hard and tough like horn. It is the produce of a large tree growing in the East Indies, called by Plukenet *cucurbitifera malabariensis, ænoplæ foliis rotundis, fructu orbiculari rubro cujus grana sunt nuces vomicæ officinarum.*

THIS seed discovers to the taste a considerable bitterness, but makes little or no impression on the organs of smell. It has been recommended in tertian and quartan fevers, in virulent gonorrhœas, and as an alexipharmac : Fallopius relates, that it was given with success in the plague ; that in doses of from a scruple to half a dram, it procured a plentiful sweat ; and that where this evacuation happened, the patient recovered (a). At present it is looked upon, and not without good foundation, as a deleterious drug ; which, though like many other deleterious substances, capable, in certain doses and in certain circumstances, of producing happy effects, has its salutary and pernicious operations so nearly and so indeterminably allied, that common prudence forbids its being ventured on. Hoffmann tells us of a girl of ten years of age, to whom fifteen grains, given at twice, for the cure of an obstinate quartan, proved mortal (b). The principal symptoms it has been observed to produce, in human subjects and brutes (c), are, great anxieties, strong convulsions or epileptic fits, paralytic tremors and resolutions, a great increase of the motion of the heart and of respiration, and reachings and subversions of the stomach. Dissections of dogs killed by it have shewn no material injury of the grosser parts ; from whence we may presume that it is the nervous system it immediately offends. It is probable, that the active matter of this seed is of the same nature with that of bitter almonds, but more developed and in a more concentrated state.

3 F

THE

(a) *Traët. de tumoribus præternaturalibus, cap. 27.*

(b) *Philosophia corp. human. morboſi, P. ii. cap. viii. § 8.*

(c) *Vide Wepfer De cicuta aquatica, cap. xiii. p. 194 & seq.*

THE wood or roots of the tree, or of other trees of the same genus, are sometimes brought from the East Indies under the name of *lignum colubrinum* (*Pharm. Paris.*) or snakewood, in pieces about the thickness of a mans arm, covered with a brownish or rusty coloured bark, internally of a yellowish colour with whitish streaks.

This wood, in rasping or scraping, emits a faint not disagreeable smell; and when chewed for some time discovers a very bitter taste. Cartheuier relates, that it gives a gold coloured tincture both to water and spirit, and that the inspissated extracts are brownish; that the watery infusion has an agreeable smell like that of rhodium, the spirituous little or none; that the infusions and extracts made with both menstrua are very bitter; that the quantity of watery extract amounts to one sixth of the wood, and that of the spirituous to near one fourth; and that the wood remaining after the action of spirit, yields still, to water, a gold coloured tincture, and one eighth its weight of a bitter subacid extract: from whence water appears to be the proper menstruum of its active matter.

The *lignum colubrinum* has been recommended, in small doses, not exceeding half a dram, as an anthelmintic, and in obstinate quartans, jaundices, cachexies, and other chronical disorders: it is said to operate most commonly by sweat, sometimes by stool, and sometimes by vomit. It appears however to be possessed of the same ill qualities with the *nux vomica* itself, though in a lower degree, having in sundry instances been productive of convulsions, tremors, stupors, and disorders of the senses.

THE *faba indica Pharm. Paris. faba sancti ignatii* or *faba febrifuga* is the produce of a tree of the same kind, growing in the East Indies and in the Philippine islands, called by Plukenet *cucurbitifera malabathri foliis scandens, catalongay & contara philippinis orientalibus dicta, cujus nuclei pepitas de besayas aut catbalogan & fabæ sancti ignatii ab hispanis, igasur & mananaog insularis nuncupati*. The seeds of the gourd-like fruit, improperly called beans, are of a roundish figure, very irregular and uneven, about the size of a middling nutmeg, semitransparent, and of a hard horny texture.

These seeds have a very bitter taste, and no considerable smell: when fresh they are said to have somewhat of a musky scent. Neumann observes, that an extract made from them by rectified spirit impresses at first a very agreeable bitterness, somewhat like that of peach kernels, which going off leaves in the mouth a strong bitter; that an
extract

extract made with water is likewise bitter; that the watery extract is greenish and in quantity one half of the seeds, the spirituous yellowish and little more than one fifth; that the seeds remaining after the action of water scarcely gave out any thing to spirit, but that after spirit they yielded above one fourth of extract with water.

St. Ignatius's bean is said by father Camelli to be employed by the common people in the Philippine islands against all diseases. The effects attributed to it are similar to those of the two foregoing substances: he observes that it generally vomits, sometimes purges, and almost always produces in the Europeans, though not in the Indians, spasmodic motions; that the dose in substance, as an emetic, is ten or twelve grains, to be taken an hour after eating; and that in smaller doses it sometimes promotes a plentiful sweat (*a*). Neumann says he has known intermitting fevers cured by drinking, on the approach of a paroxysm, an infusion of some grains of the seed made in carduus water (*b*); and I have been informed, that two grains were found to have as much effect as a full dose of bark. This seed, nevertheless, as it apparently partakes of the qualities of the two preceding articles, is much too hazardous for general use.

N Y M P H Æ A.

WATER-LILY: an aquatic plant, with thick firm roundish leaves, furnished with two obtuse ears at the pedicle, floating on the surface of the water: the flowers, which stand on separate pedicles, are large, composed of several petals with numerous stamina in the middle, followed by single capsules full of blackish shining seeds: the root is long, thick, internally white and fungous.

1. NYMPHÆA ALBA *sive nenuphar*, Pharm. Edinb. *Nymphæa alba major* C. B. *Leuconymphæa*. White water-lily: with white flowers set in four-leaved cups, the seed vessels round, and the roots externally brownish.

2. NYMPHÆA LUTEA: *nymphæa major lutea* C. B. Yellow water-lily: with yellow flowers set in five-leaved cups, the seed vessels shaped like a pear, and the roots externally greenish.

(a) *Philosophical transactions*, numb. 250.

(b) *Chymia medica*, &c. i. 717. *Chemical works* p. 347.

BOTH these plants are found in rivers and large lakes; the yellow is most common: they are perennial, and flower usually in June. The roots and flowers have been employed, both internally and externally, as demulcent, anti-inflammatory, and in some degree anodyne. Their virtues, however, do not appear to be very great, as they have no smell (at least when dried) and but little taste: extracts made from them both by water and spirit are weakly bitterish, subastringent, and subsaline. Lindestolpe informs us, that in some parts of Sweden, the roots, which are the strongest part, were in times of scarcity used as food, and did not prove unwholesome.

O C H R A.

OCHRA sive minera ferri lutea vel rubra Pharm. Paris.
 OCHRE: an argillaceous earth; less tenacious, when moistened, than the clays and boles; impregnated with a calx of iron, and thereby tinged of a yellow or red colour. The dark red sort is called reddle or ruddle, *rubrica fabrilis Pharm. Edinb.* the yellow *fil; ochra plinio & latinis fil dicta Charleton.* Those which are naturally yellow become red by burning. Both kinds are dug in several parts of England.

THESE earths discover their argillaceous nature, by burning hard in the fire; and their ferrugineous impregnation, by digestion in aqua regis, which extracts the iron, leaving the earth nearly white. To the taste they seem somewhat astringent, in consequence, not of the metallic, but of the earthy part, for the iron is in such a state as not to be acted on by any fluid that exists in the bodies of animals: it may therefore be presumed, that they do not differ materially, in virtue, from the boles; except in being less viscid, and therefore of less efficacy for obtunding acrid humours: see *bolus* and *cimolia*. Among us, they are rarely or never used medicinally under their own name; though sometimes applied in the shops to the counterfeiting of earths that are less common.

O C I M U M.

OCIMUM, ozymum, basilicum, herba basilica, herba regia.
 BASIL: a plant, with square stalks; oval leaves set in pairs; and long spikes of labiated flowers, whose upper lip is divided into four parts, the lower entire: the cup also has two lips, one cut into four sections, the other into two.

I. OCIMUM

1. OCIMUM *Pharm. Edinb.* *Ocimum vulgatius C. B.* *Ocimum medium citratum Ger.* Common or citron basil: with most of the leaves indented, and the flower-cups edged with fine hairs.

2. OCIMUM CARYOPHYLLATUM: *Ocimum minimum C. B.* Small or bush basil: with uncut leaves.

BOTH these plants are natives of the eastern countries, and sown annually in our gardens for culinary as well as medicinal uses. The seeds, which rarely come to perfection in this climate, especially those of the second sort, are brought from Italy and the south of France.

The leaves of basil are accounted mildly balsamic: infusions of them are sometimes drank as tea in catarrhus and uterine disorders, and the dry leaves in substance made an ingredient in cephalic and sternutatory powders. They are very juicy, of a weakly aromatic and very mucilaginous taste, and of a strong smell, which is somewhat disagreeable when the herbs are fresh but is improved by drying: those of the first sort approach to the lemon scent, those of the second to that of cloves. Distilled with water, they yield a considerable quantity of essential oil, of a penetrating fragrance, commended by Hoffmann as a nervine, similar, but greatly superiour, to oil of marjoram (a).

O L I V A.

O L I V A *fativa C. B.* OLIVE: an evergreen tree, with oblong, narrow, willow-like leaves, and monopetalous whitish flowers, cut into four sections, followed by clusters of oval black fruit, containing, under a fleshy pulp, a hard rough stone. It is a native of the southern parts of Europe, and bears the ordinary winters of our own climate.

THE fruit of this tree (*oliva*) has a bitter austere, very disagreeable taste: pickled, as brought from abroad, it proves less ungrateful, and is supposed to promote appetite and digestion, and attenuate viscid phlegm in the first passages: the Lucca olives, which are smaller than the others, have the weakest taste; and the Spanish, or larger, the strongest: those brought from Provence, which are of a middling size, are in general most esteemed. But the principal consumption of olives is in the preparation of the common salad oil (*oleum olivarum Pharm. Lond. & Edinb.*) which is obtained by grinding and pressing them when thoroughly ripe: the finer and purer oil issues first by gentle pressure;

(a) *Observationes physico-chemicæ, lib. i. obs. 4.*

pressure; and inferiour sorts, on heating the residuum and pressing it more strongly. All these oils contain a portion of watery moisture, and of the mucilaginous substance of the fruit: to separate these, and thus prevent the oil from growing rancid, some sea salt is added, which not being dissoluble in the pure oil, imbibes the watery and mucilaginous parts, and sinks with them to the bottom. As this oil grows thick in a moderate degree of cold, a part of the salt, thrown up by shaking the vessel, is sometimes detained in it, so as to render the taste sensibly saline. In virtue, it does not differ materially from the other flavourless expressed oils: it is preferred to the others for dietetic uses, and, in plasters and unguents, but is more rarely employed as an internal medicine.

O L I B A N U M.

OLIBANUM Pharm. Lond. Olibanum seu thus masculum Pharm. Edinb. OLIBANUM: a gummy-resin brought from Turkey and the East Indies, usually in drops or tears like those of mastich but larger, of a pale yellowish colour, which by age becomes reddish. Of the tree which produces it we have no certain account.

THIS gummy-resin has a moderately strong, not very agreeable smell, and a bitterish somewhat pungent taste: in chewing, it sticks to the teeth, becomes white, and renders the saliva milky. Laid on a red hot iron, it readily catches flame, and burns with a strong, diffusive, not unpleasant smell: it is supposed to have been the incense used by the ancients in their religious ceremonies, though it is not the substance now known by that name in the shops. On trituration with water, greatest part of it dissolves into a milky liquor, which on standing deposits a portion of resinous matter, and being now gently inspissated, leaves a yellow extract, which retains greatest part of the smell as well as the taste of the olibanum; its odorous matter appearing to be of a less volatile kind than that of most other gummy-resins. Rectified spirit dissolves less than water, but takes up nearly all the active matter: the transparent yellowish solution, inspissated, yields a very tenacious resin, in which the active parts of the juice are so enveloped and locked up, that they are scarcely to be discovered either by the smell or taste.

Olibanum is recommended in disorders of the head and breast, in hemoptoes, and in alvine and uterine fluxes: the dose is from a scruple to a dram or more.

O N O N I S.

O N O N I S.

O N O N I S & *anonis seu aresta bovis Pharm. Edinb.* *Anonis spinosa flore purpureo C. B.* *Resta bovis & remora aratri quibusdam.*

REST-HARROW, CAMMOCK, PETTY WHIN, GROUND FURZE: a plant with flexible branches terminating in sharp prickles; small oval indented leaves, standing generally three together, without pedicles; and purplish papilionaceous flowers, set in pairs, followed each by a short pod containing three unequal kidney-shaped seeds. It is perennial, grows wild in waste grounds and dry fields, and with its long tough spreading roots obstructs the plough or harrow.

THE roots of rest-harrow have a faint unpleasant smell, and a sweetish, bitterish, somewhat nauseous taste. Their active matter is confined to the cortical part; which has been sometimes given in powder, in doses of a dram, and made an ingredient in apozems or decoctions, as an aperient and diuretic. Its virtue is extracted both by water and spirit.

O P I U M.

O P I U M Pharm. Lond. & Edinb. OPIUM: a concrete gummy-resinous juice; somewhat soft and tenacious, especially when much handled or warmed; of a dark reddish brown colour in the mass, and when reduced into powder yellow. It is brought from Egypt, Persia, and some other parts of Asia, in flat cakes or irregular masses, from four to about sixteen ounces in weight, covered with leaves to prevent their sticking together.

It is extracted from the heads of white poppies (see *papaver*) which in those countries are cultivated in fields for this use. Kæmpfer reports, that the heads, when almost ripe, are wounded with a five-edged instrument by which as many parallel incisions are made at once from top to bottom; that the juice which exudes is next day scraped off, and the other sides of the heads wounded in like manner; and that the juice is afterwards worked with a little water, till it acquires the consistence, tenacity, and brightness of the finest pitch. The best opium was formerly called Thebaic opium, from its being prepared about Thebes in Egypt: no distinction is now made in regard to the places of its production, though the epithet *thebaic* serves to distinguish some of its officinal preparations.

OPIUM

OPIUM has a faint disagreeable smell, and a bitterish, somewhat hot, biting taste. Watery tinctures of it strike a black colour with chalybeate solutions, and thus seem to discover some astringency. Mixed with the serum of blood, they thicken and render it whitish; and on blood itself, newly drawn, they have nearly a like effect: Mr. Eller observes, that on examining with a microscope blood thickened by a vinous tincture of opium, the nature of its globules seemed to be destroyed. But neither from these, nor any of the other known sensible properties of this drug, can its surprizing operation in the human body be deduced.

Taken in proper doses, it commonly procures sleep, and a temporary respite from pain or the action of any stimulating power. The cause of the pain it in many cases confirms or augments; and in not a few, it fails even of giving palliative relief. The cases in which it is proper or improper will be best understood from a view of its general effects; which, so far as experience has hitherto discovered them, are the following.

It renders the solids, while the operation of the opium continues, less sensible of every kind of irritation, whether proceeding from an internal cause, or from acrimonious medicines, as cantharides and the more active mercurials, of which it is the best corrector. It relaxes the nerves; abating or removing cramps or spasms, even those of the more violent kind; and increasing paralytic disorders and all debilities of the nervous system. It incrassates thin serous humours in the fauces and adjacent parts; by which means, it proves frequently a speedy cure for simple catarrhs and tickling coughs; but in phthisical and peripneumonic cases, dangerously obstructs expectoration, unless this effect be provided against by suitable additions, as ammoniacum and squills. It produces a fullness and distension of the whole habit; and thus exasperates inflammations both internal and external, and all plethoric symptoms. It promotes perspiration and sweat; but restrains all other evacuations, unless when they proceed from a relaxation and insensibility of the parts, as the colliquative diarrhœæ in the advanced stage of hectic fevers. It promotes labour-pains and delivery (*a*) more effectually than the medicines of the stimulating kind usually recommended for that purpose; partly perhaps by increasing plenitude, and partly by relaxing the solids or taking off spasmodic strictures. And indeed all the preceding effects are perhaps consequences of one general power; being nearly allied to those which natural sleep produces (*b*).

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(*a*) Mead, *Mimic & præcept med.* p. 253.

(*b*) See Young's *treatise on opium*.

The

The operation of opium is generally accompanied with a slow but strong and full pulse, and a slight redness, heat and itching of the skin: it is followed by a weak languid pulse, lowness of the spirits, some difficulty of breathing or a sense of tightness about the breast, a slight giddiness of the head, dryness of the mouth and fauces, and some degree of nausea. Given on a full stomach, it commonly occasions a nausea from the beginning, which continues till the opium is rejected along with the contents of the stomach. Where the evacuation of acrid humours, accumulated in the first passages, is suppressed by it, great sickness and uneasiness are generally complained of, till the salutary discharge either takes place again spontaneously or is promoted by art.

An over dose occasions either immoderate mirth or stupidity, a redness of the face, swelling of the lips, relaxation of the joints, vertigo, deep sleep with turbulent dreams and startings, convulsions, and cold sweats. Geoffroy observes, those who recover, are generally relieved by a diarrhœa, or by a profuse sweat, which is accompanied with a violent itching. The proper remedies, besides emetics, blisters, and bleeding, are acids and neutral mixtures: Dr. Mead says he has given, with extraordinary success, repeated doses of a mixture of salt of wormwood with lemon juice.

A long continued use of opium is productive of great relaxation and debility, sluggishness, heaviness, loss of appetite, dropsies, tremors, acrimony of the humours, frequent stimulus to urine, and propensity to venery. On leaving it off, after habitual use, an extreme lowness of the spirits, languor, and anxiety, succeed; which are relieved by having again recourse to opium, and in some measure by spirituous or vinous liquors.

With regard to the dose, one grain is generally a sufficient, and sometimes too large a one: maniacal persons, and those who labour under violent spasms, require oftentimes two, three, or more grains; though even in these cases, it is generally more advisable to repeat the dose at proper intervals, than to enlarge it. By frequent use, much greater quantities may be borne: the Turks, who habituate themselves to opium as a succedaneum to spirituous liquors, are said to take commonly a dram at a time, and Garcias says that he knew one who every day took ten drams.

OPIUM appears to consist of about five parts in twelve of gummy matter, four of resinous matter, and three of earthy or other indissoluble

*Opium colat.
vel Extract.
thebaic. P. L.

luble impurities (*a*). From these last it is purified, in the shops, by softening the opium with boiling water (in the proportion of a pint to a pound) into the consistence of a pulp, with care to prevent its burning; and whilst it remains quite hot, strongly pressing it from the feces through a linen cloth: the strained opium is then inspissated in a water-bath or other gentle heat, to its original consistence *. When thus softened with a small quantity of water, the gummy and resinous parts pass the strainer together; whereas, if dissolved by a larger quantity, they would separate from one another.

It has been disputed, whether it is in the gummy or in the resinous parts of opium, that its activity resides. From the experiments of Hoffmann (*b*) and Neumann (*c*), it seems to be neither in the direct gum, nor in the direct resin, but in a certain subtile part of the resinous matter, somewhat analogous to essential oils, but of a much less volatile kind: they report, that on boiling the opium in water, there arises to the surface a frothy, viscid, unctuous, strong-scented substance, to the quantity of two or three drams from sixteen ounces: that this substance, in the dose of a few grains, has killed dogs that could bear above a dram of crude opium; that in distillation with water, though it does not rise itself, it gives over, at least in part, the active principle of which it is the matrix; impregnating the distilled liquor with its scent and its soporific power; as essential oils exhale their odoriferous principle in the air, without being dissipated themselves. What this subtile and highly active principle really is, in essential oils, in odorous vegetables that yield no oil, and in opium, is equally unknown.

Both water and rectified spirit extract, difficultly, by maceration or digestion, the active matter of opium, and receive from it a yellow or brownish tincture. The watery solution is found to contain great part of the resin along with the gum; and the spirituous, a smaller proportion of the gum along with the resin. Such part of the gum as is left by spirit, and such part of the resin as is left by water, are equally inert.

Tinctures of opium in water, wine, and proof spirit, have the same effects as the opium in substance; with this difference, that they exert themselves sooner in the body, and are less disposed to leave a nausea on the stomach. Tinctures made in rectified spirit are said to act with greater

(*a*) Allston, *Edinburgh medical essays*, vol. v. art. 12.

(*b*) *Diss. de opiæ correctione genuina & usu*, Oper. Supplement. II. P. i. p. 645. Not. ad Poterium, p. 437.

(*c*) *Chymia medica*, vol. i. p. 996. *Chemical works*, p. 308.

greater power than the others : Geoffroy relates, from his own observation, that while the watery and vinous tinctures occasioned quiet sleep, the spirituous brought on a phrenzy for a time. It is said likewise, that alkaline salts diminish the soporific virtue of the opium ; that fixt alkalies render it diuretic, whilst volatile ones determine its action to the cutaneous pores ; and that acids almost entirely destroy its force.

The officinal tinctures of opium are made in wine or proof spirit. The college of London directs two ounces of strained opium to be macerated without heat for a week in a pint of mountain, with the addition of a dram of cinnamon and as much cloves * to alleviate the ill smell of the opium : the college of Edinburgh orders the same quantity of crude opium to be digested in a sand heat, in a pint and a quarter of a compound aromatic spirituous distilled water, or spirituous cinnamon water, with or without the addition of an ounce of saffron † : a mixture of wine and proof spirit has been sometimes made choice of, in order to prevent in some measure an inconvenience which both of them separately, considered as officinals, are liable to, being apt to throw off in long standing a part of the opium, which in wine falls to the bottom, and forms a crust on the surface of spirit. Of the first of the above tinctures twenty drops, and of the latter twenty five drops, are reckoned to contain one grain of opium : but as these quantities of the menstrua do not easily dissolve all the active matter of so large a proportion of the opium, those doses are generally observed to have somewhat less effect than a grain of the drug in substance. As drops also, according to different circumstances, vary in quantity, though in number the same, it were to be wished that the shops were furnished with a solution of this drug, made in a quantity of menstruum large enough not only for the complete extraction of the active parts, but to admit of the dose being exactly determined by weight or measure.

In a solid form, independently of such materials as may be subservient to the other indications of cure, it is sometimes mixed with saponaceous or gummy substances which promote its dissolution in the stomach, and sometimes with resinous ones which render its dissolution and operation more gradual and slow : to these is commonly superadded some aromatic ingredient, to prevent its occasioning a nausea. Thirty-two parts of almond soap, four of strained opium moistened with a little wine, and one of essence of lemons, beaten together, make an elegant pill of the first kind ‡ ; and sixteen parts of strained storax, eight of saffron, and five of strained opium §, of the latter.

* Tinctura
thebaic. P.L.

† Tinctura
opii, vulgo
laudanum
liquidum
Ph. Edinb.

‡ Pil. saponaceæ
Pharm. Lond.
§ Pil. e styrace
Pharm. Lond.

Many have endeavoured to correct certain ill qualities, which they suppose opium to be possessed of, by roasting it, by fermentation, by long continued digestions, by repeated dissolutions and distillations. These kinds of processes, though recommended by several late writers, do not promise any singular advantage. That they weaken the opium is indeed very probable; but this intention is answered as effectually, and with far greater certainty, by diminishing the dose of the opium itself.

O P O B A L S A M U M.

OPOBALSAMUM Pharm. Lond. Balsamum gileadense seu opobalsamum, Pharm. Edinb. Balsamum Alpini. OPOBALSAM OR BALSAM OF GILEAD: a resinous juice, obtained from an evergreen tree or shrub (*balsamum syriacum rutæ folio C. B.*) said to grow in Arabia. The best sort, which naturally exudes from the plant, is scarce known in Europe; and the inferiour kinds, said to be extracted by lightly boiling the branches and leaves in water, are very rarely seen among us.

THE true opobalsam, according to Prosper Alpinus, is at first turbid and white, of a very strong pungent smell, like that of turpentine; but much sweeter and more fragrant, and of a bitter, acrid, astringent taste: on being kept for some time, it becomes thin, limpid, light, of a greenish hue, and then of a gold yellow, after which, it grows thick like turpentine, and loses much of its fragrance (*a*). Some resemble the smell of this balsam to that of citrons, others to that of a mixture of rosemary and sage flowers. I have sometimes met with a curious balsam of this last kind of smell, exceedingly fragrant, limpid, and thin: dropt on water, it spread itself all over the surface, imparting to the liquor a considerable share of its taste and smell: the grosser part, that remained on the top of the water, was so tenacious, as to be easily taken up at once with the point of a needle, which is reckoned, by Alpinus and others, a characteristic of the true balsam.

This precious balsam is of great esteem in the eastern countries, both as a medicine, and as an odoriferous unguent and cosmetic. Its great scarcity has prevented its coming into use among us: nor are its virtues, probably, superiour to those of some of the resinous juices more common in the shops; all these substances being in their general qualities alike, though differing in the degree of their gratefulness, pungency, and warmth.

O P O P A N A X.

(*a*) Vide Alpini dialogum de balsamo.

O P O P A N A X.

OPOPANAX Pharm. Lond. & Edinb. OPOPANAX: a concrete gummy-refinous juice, obtained from the roots of an umbelliferous plant, which grows spontaneously in the warmer countries, and bears the colds of our own (see *pastinaca*). The juice is brought from Turkey and the East Indies, sometimes in little round drops or tears, more commonly in irregular lumps, of a reddish yellow colour on the outside with specks of white, internally of a paler colour and frequently variegated with large white pieces.

THIS gummy-refin has a strong disagreeable smell, and a bitter, acrid, somewhat nauseous taste. It readily mingles with water, by triture, into a milky liquor, which on standing deposits a portion of refinous matter and becomes yellowish: to rectified spirit it yields a gold coloured tincture, which tastes and smells strongly of the opopanax. Water distilled from it is impregnated with its smell, but no essential oil is obtained on committing moderate quantities to the operation.

Opopanax is an useful attenuant and deobstruent, and in considerable doses loosens the belly. It is given from a scruple to a dram, in the same intentions as ammoniacum or galbanum; and joined in smaller doses as an auxiliary to those and the other deobstruent gums.

O R I G A N U M.

ORIGANUM Pharm. Lond. *Origanum vulgare Pharm. Edinb.*
Origanum silvestre, cunila bubula plinii C. B. *Agrioriganum sive onitis major Lob.* ORIGANUM or WILD MARJORAM: a plant with firm round stalks, and oval, acuminate, uncut, somewhat hairy leaves, set in pairs upon short pedicles: on the tops grow scaly heads of pale red labiated flowers, (whose upper lip is entire, and the lower cut into three segments) set in form of a convex umbel, intermixed with roundish purplish leaves: each flower is followed by four minute seeds inclosed in the cup. It grows wild on dry chalky hills and gravelly grounds, in several parts of England, and flowers in June. The flowers, or rather flowery tops, of a somewhat different species, *origanum creticum*, were formerly brought from Candy, but have long given place to those of our own growth, which are nearly of the same quality.

THE

THE leaves and flowery tops of *origanum* have an agreeable aromatic smell, and a pungent taste, warmer than that of the garden marjoram, and much resembling thyme; with which they appear to agree in medicinal virtue. Infusions of them are sometimes drank as tea, in weakness of the stomach, disorders of the breast, for promoting perspiration and the fluid secretions in general: they are sometimes used also in nervine and antirheumatic baths; and the powder of the dried herb as an errhine. Distilled with water, they yield a moderate quantity of a very acrid penetrating essential oil *, smelling strongly of the *origanum*, but less agreeable than the herb itself: this oil is applied on a little cotton for easing the pains of carious teeth; and sometimes diluted and rubbed on the nostrils or snuffed up the nose, for attenuating and evacuating mucous humours.

* Ol. essent.
origani.
Ph. L. & Ed.

O S T E O C O L L A.

OSTEOCOLLA Pharm. Edinb. *Osteocolla, aliis ossifragus, osteites, ammoniteus, osteolithos, holosteus, stelochites, Worm. mus.* *OSTEOCOLLA* OR BONE-BINDER: a fossil substance, found in some parts of Germany, particularly in the marchè of Brandenburg, and in other countries. It is met with in loose sandy grounds, spreading, from near the surface to a considerable depth, into a number of ramifications like the roots of a tree: it is of a whitish colour, soft while under the earth, friable when dry, rough on the surface, for the most part either hollow within, or filled with solid wood, or with a powdery woody matter (a).

THIS earth has been celebrated for promoting the coalition of fractured bones and the formation of a callus; a virtue to which it does not seem to have any claim. It is found to be composed of two different earthy substances, which are nearly in equal proportions, and which may be separated from one another by washing the powdered *osteocolla* with water: the finer matter, which washes over, appears from its burning into quicklime, and its properties in other experiments, to be a mere calcareous earth not different in quality from chalk: the grosser matter that remains is no other than sand.

O S T R E U M.

(a) A more particular account of this fossil may be seen in *Neumann's chemical works*, p. 111. and the *memoires de l'academie royale des sciences de Berlin pour l'ann. 1748*.

O S T R E U M.

OSTREUM Pharm. Lond. & Edinb. The OYSTER; a common, bivalvous, marine, shell fish.

THE shell of the oyster, levigated into a subtile powder *, is employed as an absorbent, in heart-burns and other like complaints arising from acidities in the first passages (see *terrea absorbentia*): the hollow shells are generally made choice of, as containing more, than the thinner flat ones, of the fine white earth, in proportion to the outer rough coat, which last is found to be considerably impregnated with sea salt. By calcination, they are converted into a strong quicklime, which imparts to water a greater degree of lithontriptic power than the mineral limes; see *calx viva*.

* Testæ ostre-
orum præpar.
Ph. L. & Ed.

O V U M.

OVUM gallinaceum Pharm. Lond. & Edinb. HENS EGG.

EGGS are accounted very nutritious, but difficult of digestion, especially if boiled hard. In medicine, the yolk has been employed as an intermedium for rendering resinous juices and balsams soluble in water: the white has been found to answer this purpose rather more effectually and more elegantly than the yolk, though less so than vegetable gums, the solutions obtained by means of the animal productions being apt on standing to become putrid or rancid. The yolk, exsiccated by a gentle warmth, forms a friable concrete; the white, a firm semitransparent one, in appearance resembling amber or gum arabic, and soluble again in watery liquors. The boiled white, placed in a moist cellar, deliquiates spontaneously, and gummy-resinous substances, included in it, dissolve along with it: preparations of this kind have been directed for medicinal uses, but it does not appear that more of the gummy-resin is thus dissolved by the liquamen of the egg than by simple water.

The shells of eggs, freed, after boiling, from the inner skin, and levigated into fine powder †, are sometimes used as absorbents.

† Testæ ovo-
rum præpar.
Ph. L. & Ed.

P Æ O N I A.

PÆONIA Pharm. Lond. Pæonia mas & femina Pharm. Edinb. Pæonia folio nigricante splendido quæ mas, & pæonia femina flore

flore pleno rubro majore C. B. MALE and FEMALE PEONY or PIONY: a plant with large leaves, divided deeply into oblong segments, or rather composed of a number of these segments set on divided pedicles: on the tops of the branches grow large rose-like flowers, followed each by two or more horned pods, internally of a deep red colour, containing roundish shining red or black seeds. The male sort has dark green leaves, pale red single flowers, long thick roots, and the stalks and pedicles streaked with red: the female has longer narrower and paler leaves, deep red double flowers, and irregular roots composed of several tuberous pieces hanging by tough filaments from one head. They are both found wild in some parts of Europe, and cultivated with us in gardens: they are perennial, produce their flowers in May, and very soon shed them.

THE male peony has been generally preferred for medicinal use: but the female, which is the largest and most elegant, and for this reason the most common, is the species which the shops have been principally supplied with. In quality, there does not appear to be any material difference betwixt the two; and hence the college allow both sorts to be taken indiscriminately.

The roots and seeds of peony have, when fresh, a faint unpleasant smell, somewhat of the narcotic kind; and a mucilaginous subacid taste, with a slight degree of bitterishness and astringency. In drying, they lose their smell, and part of their taste. Extracts made from them by water are almost insipid as well as inodorous; but extracts made by rectified spirit are manifestly bitterish and considerably astringent.

The leaves are nearly inodorous. To the taste, the leaves themselves discover a moderate degree of roughness, and their pedicles of sweetness; both which are preserved in great measure in the watery, but more perfectly in the spirituous extracts.

The flowers have rather more smell than any of the other parts of the plant, and a rough sweetish taste, which they impart, together with their colour, both to water and spirit: the watery infusion leaves, on being inspissated, a blackish red, austere, sweetish and somewhat bitterish extract: the spirituous tincture yields an extract of a beautiful bright red, of an agreeable though weak smell, a moderate astringency, and an almost saccharine sweetness.

The roots, flowers, and seeds, are looked upon as lightly anodyne and corroborant; to the latter, at least, of which virtues, they appear from

from the above experiments to have some claim. They have been principally recommended in spasmodic and epileptic complaints; in which, we are afraid, their effects are not very considerable.

P A L M A.

P A L M: a tall unbranched tree, with long reed-like leaves elegantly disposed on the top. Different species of it grow spontaneously in the eastern countries, and in the warmer parts of the West Indies.

THE *palma major* C. B. is cultivated in some of the southern parts of Europe. Its fruit, the dates of the shops, *daḥlyli Pharm. Edinb.* is of an oblong shape, like an acorn but generally larger; and consists of a thick fleshy substance including, and freely parting from, an oblong hard stone, which has a remarkable furrow running its whole length upon one side. The best dates come from Tunis: they should be chosen large, softish, not much wrinkled, of a reddish yellow colour on the outside, with a whitish membrane betwixt the flesh and the stone. They have an agreeable sweet taste, accompanied with a slight astringency; and hence stand recommended in tickling coughs and thin acrid defluxions on the lungs, and in alvine fluxes. Among the Egyptians and Africans, they are said to be a principal article of food, and when used too freely, to be difficult of digestion, occasion headaches, sometimes gripes, and, in length of time, obstructions of the viscera, cachectic, and melancholic disorders.

THE *palma oleosa* (*palma foliorum pediculis spinosis, fructu pruniformi luteo oleoso Sloan. jam.*) is a native of the coast of Guinea and the Cape Verd islands, from whence it has been introduced into Jamaica and Barbadoes. From its fruit is extracted an oil, *oleum palmæ Pharm. Edinb.* which, as brought to us, is about the consistence of an ointment, of a strong, not disagreeable smell, and scarcely any particular taste: by long keeping it loses its high colour and becomes white, and in this state is to be rejected. The inhabitants of the Guinea coast are said to employ the palm oil for the same purposes as we do butter. With us, it is used only in some external applications, for pains and weakness of the nerves, cramps, sprains, and other like complaints. The common people sometimes apply it to chilblains; and, when used early, not without benefit.

THE medullary part of certain oriental palm trees (*palma indica caudice in annulos protuberantes distincto, fructu pruniformi, Raii*) affords another article of food to the natives, and of the materia medica to us. The farinaceous medulla, freed from the filamentous matter with which it is enveloped, is beaten with water, and made into cakes, which are afterwards reduced into small grains, and dried. The cakes are said to be the bread used by the Indians in scarcity of rice: the grains are the sago or sagou of the shops, *sago Pharm. Edinb.* This substance, commonly recommended as a restorative in phthises and emaciations and for restraining fluxions, appears to be a light, moderately nutritious, demulcent food; in which view it is by some directed (a) as a proper aliment for young children, in preference to the more tenacious and less digestible preparations of wheat flower.

P A P A V E R.

P O P P Y: a plant with oblong leaves, and round stalks, divided into a few branches, each of which is terminated by a large tetrapetalous flower, set in a two-leaved cup that falls off as the flower opens: the flower itself likewise soon falls, leaving a smooth roundish head or capsule, covered with a radiated crown, and containing a number of smooth roundish seeds. It is annual, and flowers from June to near the end of summer.

1. PAPAVER ALBUM *Pharm. Lond.* *Papaver hortense Pharm. Edinb.* *Papaver hortense semine albo C. B.* White poppy: with smooth, slightly indented leaves; and whitish flowers and seeds.

2. PAPAVER NIGRUM: *Papaver hortense nigro semine C. B.* Black poppy: with smooth, slightly indented leaves, purple flowers, and black seeds.

THESE plants are found wild in some parts of Europe; and several varieties of them, in regard to the flowers, are produced by culture in our gardens. The heads, stalks, and leaves, have an unpleasant smell, and a bitterish biting taste, of the same kind with those of opium. Their smell and taste is lodged in a milky juice; which abounds chiefly in the cortical part of the heads; which may be collected, in considerable quantity, by slightly wounding them when almost

(a) Albertus Seba, *Thesaur. vol. i. p. 40.* *Art. nat. curios. vol. i. Append.*

most ripe; and which, on being exposed for a little time to a warm air, thickens into a tenacious dark-coloured mass, similar to the opium brought from abroad, but stronger in smell and taste. The juices, thus obtained from the two sorts of poppies, appear to be of the same quality, the difference being only in the quantity afforded: the white poppy, which is the largest, is the sort cultivated by the preparers of opium in the eastern countries, and for medicinal uses in this.

The collection of the pure milky juice of the poppy has not, among us, been as yet practised in large, or with a view to the supplying of the common demand of opium. Instead of this troublesome process, we extract the narcotic matter by menstrua; the active parts of opium, as observed under that article, being completely dissoluble both by water and rectified spirit. A portion of the herbaceous inert substance of the plant is indeed, at the same time, taken up, at least when water is made use of, so as to render an enlargement of the dose necessary: but this addition to the bulk of a dose of opium would be of no inconvenience, if the compound was always of the same strength, or the narcotic and inert matter in the same proportions to one another; a point which cannot be attained with so much precision as could be wished, but which may nevertheless, by due care in the preparation, be adjusted as nearly as common practice in most cases requires.

The college of London directs the dried heads, cut and cleared from the seeds, to be boiled in water, in the proportion of three pounds and a half to six gallons, and now and then stirred to prevent their burning, till only about one third part of the liquor remains, which will be almost entirely soaked up by the poppies: the decoction is to be strongly pressed out, boiled down to about four pints, then strained whilst hot, first through a sieve and afterwards through a fine woollen cloth, and set by for a night to settle: to the liquor, poured off clear, six pounds of double refined sugar are to be added; and the mixture boiled till its weight comes to nine pounds or a little more, that it may become a syrup of a proper consistence *. An ounce of this syrup is reckoned equivalent to about a grain of opium, being found to have nearly the same soporific power with that quantity of the concrete juice, though it acts in general rather more kindly, and agrees in some cases where opium itself cannot well be borne.

* Syrup. emec-
conio sive dia-
codion P. L.

A decoction of poppy heads in water, strongly pressed out, depurated by settling, then clarified with whites of eggs, and inspissated, yields an extract amounting to one fifth or one sixth the weight of the heads: it is said, that two grains of this preparation are equivalent

lent to one grain of opium, and that the extract is not liable to produce a nausea or giddiness which generally follow the use of pure opium (*a*): possibly some of the more active parts of the opiate juice may be separated in the boiling and depuration. Of tinctures or extracts made with spirituous menstrua, no medicinal trials, so far as I can learn, have been made: in smell and taste they approach more to opium than any other preparation of the poppy I have seen.

Many have supposed the seeds of the poppy to be, like the other parts of the herb, narcotic (*b*); misled, perhaps, by analogical reasoning from other plants. Though the seeds of many plants are more efficacious than the vessel in which they are lodged; those of the poppy have nothing of the narcotic juice which is diffused through their covering, through the stalks, and more sparingly through the leaves. If emulsions of poppy seeds have been found serviceable in coughs, catarrhs, heat of urine, and other like disorders; it is not to an anodyne, but an emollient quality, that this virtue is to be ascribed. The seeds in substance have a sweetish unctuous farinaceous taste, and yield upon expression a large quantity of insipid oil: both the seeds themselves and the oil are said to be in some places common articles of food (*c*).

3. *PAPAVER ERRATICUM Pharm. Lond.* *Papaver rhœas sive erraticum Pharm. Edinb.* *Papaver erraticum majus C.B.* Wild or red poppy, or corn-rose: with deep red flowers, dark coloured seeds, hairy leaves and stalks, and the leaves cut almost, or quite, to the pedicle into indented segments. It is common in corn-fields; and is sometimes, like the others, made to vary its flowers by culture.

THE heads of this species appear to contain the same kind of narcotic juice with those of the two preceding, but in so much smaller quantity that they are wholly neglected. The only part made use of is the flowers, which are supposed to be likewise impregnated in some degree with the same anodyne principle, and stand recommended in catarrhs, coughs, spitting of blood and other disorders: they have a slight narcotic smell, and a very mucilaginous taste, accompanied with a sensible bitterishness. They are at present regarded rather on account of their colour, than for any great virtues expected from them: they

(*a*) Mr. Arnot, *Edinburgh medical essays*, vol. V. art. 11.

(*b*) Hermann, *Cynosur. mat. med.* Edit. Boecler, p. 436. Juncker, *Conspectus therapie generalis*, p. 279.

(*c*) Prosper Alpines, *De medicina Ægyptiorum*, lib. iv. cap. 1. Geoffroy, *Mat. med.* tom ii. p. 715.

they yield upon expression a deep red juice, and impart the same colour to watery liquors, and a brighter though paler red to rectified spirit. A strong infusion of them is prepared in the shops, by pouring four pints and a half of boiling water upon four pounds of the fresh flowers, stirring them over the fire till the flowers are all immersed, and setting them by to steep for a night: without the application of fire so as to scald or shrink the flowers a little, they can scarcely be moistened with the water; if the heat is continued longer than this effect is produced, the liquor turns out quite slimy. This infusion, pressed out and depurated by settling is reduced, by a proper addition of sugar into a deep red syrup *. The colouring matter of the red poppy differs from that of clove-gilly flowers, red roses, and other bright red flowers, in this; that on the admixture of alkaline liquors, it does not change, like them, to a green, but to a dark purple.

* Syr. papav.
eriat. P. L.

P A R A L Y S I S .

PARALYSIS: a plant with oblong wrinkled leaves, hairy on the upper sides of the ribs; and naked stalks, bearing monopetalous flowers, each of which is divided about the edge into five segments, and set in a loose, tubulous, ridged cup, which, after the flower has fallen, incloses a husk full of roundish seeds. It is perennial, and flowers early in the spring.

I. *PARALYSIS Pharm. Lond. & Edinb.* *Verbasculum pratense odoratum C. B.* *Primula veris major Gerard.* Cowslip, paigil, or peagle: with several flowers set together on one stalk, of a deep yellow colour, drooping downwards. It grows wild in marshes and moist meadows.

COWSLIP flowers have a moderately strong pleasant smell, and a somewhat roughish bitterish taste; both which they impart, together with a yellow tincture, to watery and to spirituous menstrua. Vinous liquors, impregnated with their flavour by maceration or fermentation, and strong infusions of them drank as tea, are supposed to be mildly corroborant, antispasmodic, and anodyne. An infusion of three pounds of the fresh flowers in five pints of boiling water, is made in the shops into a syrup †, of a fine yellow colour, and agreeably impregnated with the flavour of the cowslips.

† Syr. e
flor. para-
lysis P. L.

2. *Primula*

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2. PRIMULA VERIS *Pharm. Edinb.* *Primula veris minor Ger. Verbasculum silvestre majus singulari flore C. B.* Primrose: with pale yellow solitary flowers. It grows wild in woods and hedges.

THE flowers of this species are much weaker and less agreeable in smell than those of the preceding. The leaves and the roots seem to partake in some degree of the nature of those of asarum; acting as strong errhines or sternutatories, when snuffed up the nose, and as emetics (the roots at least) when taken internally. Gerard reports, as from the experience of a skilful practitioner, that "a dram and a half of the powder of the dried roots (taken up in autumn) purgeth by vomit very forcibly, but safely, in such manner as asarum doth."

P A R E I R A.

PAREIRA BRAVA *Pharm. Edinb.* *Pareyra, ambutua, butua, o vero brutua, Zan. hist. Pharm. Paris.* PAREIRA BRAVA: the root of an American climbing plant (*convolvulus brazilianus flore octopetalo monococcus Raii hist.*) brought from Brazil, in crooked pieces of different sizes, some no bigger than the finger, others as large as a child's arm: the outside is brownish and variously wrinkled; the internal substance of a pale dull yellowish hue, and interwoven as it were with woody fibres, so that on a transverse section, there appears a number of concentric circles, crossed with striæ running from the center to the circumference.

This root is extolled by the Brasilians and Portuguese in a variety of diseases, particularly in suppressions of urine and in nephritic and calculous complaints. Geoffroy is of opinion, that its virtue consists in dissolving and attenuating tenacious juices; and reports, that in sundry disorders arising from their viscidities, it was found remarkably beneficial: that in nephritic pains and suppressions of urine, he has often given it with happy success: that he has sometimes seen the patient freed from pain almost in an instant, and a plentiful discharge of urine brought on: that in ulcers of the kidneys and bladder, where the urine was mucous and purulent and could scarcely be voided or not without great uneasiness, the symptoms were soon relieved by pareira, and the ulcer at length healed by joining to it balsam of copaiba: that in an asthmatic case, where the patient was almost suffocated by thick phlegm, an infusion of pareira, after many other medicines had been tried

tried in vain, brought on a copious expectoration which proved a solution of the disease: that a person who, from an acute pain under the liver, had become in a few hours icterical, had the pain relieved, after bleeding, by the third cup of the decoction, and all the symptoms removed by a continuance of it; and that the same disorder frequently returning, she always found relief from the same medicine: but that in another icterical case, where the liver was swelled, it did no good. He cautions against giving too large doses, which might, he observes, raise a heat and perhaps an inflammation in the kidneys: of the root in substance he prescribes from twelve grains to half a dram, and in decoction or infusion two or three drams; this quantity of the root, bruised, he directs to be boiled in a pint and a half of water till only a pint remains, which is to be strained off, sweetened with a little sugar, divided into three portions, and drank as tea at intervals of half an hour.

The use of this root has not been in general accompanied with so much success: but though, like many other medicines, it has not been found to answer the character at first given of it, and has thence fallen into neglect, we may presume, from its sensible qualities, that it is not destitute of medical virtue. It has no remarkable smell; but to the taste it manifests a very considerable sweetness, of the liquorice kind, together with some bitterness and a slight roughness covered by the sweet matter. It gives out great part both of the bitter and the sweet substance to watery and spirituous menstrua: in evaporating the watery decoction, a considerable quantity of resinous matter separates, which does not mingle with the remaining extract or dissolve in water, but is readily taken up by spirit; whence spirit appears to be the most perfect dissolvent of its active parts. Both the spirituous tincture and extract are in taste stronger than the watery.

P A S T I N A C A.

PASTINACA: an umbelliferous plant, with naked umbels, yellow flowers, and flat seeds surrounded with a leafy margin: the leaves are oblong, and stand in pairs on a middle rib, without pedicles.

1. *PASTINACA*: *Pastinaca latifolia sativa* C. B. Garden parsnep: with pale-coloured smooth indented leaves, and a large fleshy root.

2. *ELAPHOBOSCUM*:

2. ELAPHOBOSCUM: *Pastinaca silvestris latifolia* C. B. *Bancia & branca leonina quibusdam*. Wild parsnep: with dark green rough indented leaves and slender woody roots; common about the sides of fields; flowering, as the other, in June and July, and ripening its seeds in September. The garden sort is supposed to be only a variety of this, and to owe its differences to culture.

THE roots of the garden parsnep, in taste considerably sweetish, are accounted a very nutritious aliment: they yield with rectified spirit a very sweet extract, and in distillation with water a small portion of essential oil possessing the specific flavour of the roots. It is said that by standing in the ground for some years, it contracts pernicious qualities, so as to occasion disorders of the senses (a).

The seeds of the garden sort are somewhat aromatic; those of the wild a little more so; of considerable smell, but no great pungency or warmth. By infusion, they impregnate water moderately with their smell, but communicate very little taste: in distillation they give over a small quantity of a pale yellowish essential oil, in taste moderately pungent, and smelling strongly of the seeds: five pounds of the seeds of the garden parsnep yielded little more than a dram. Rectified spirit takes up by digestion the whole of their active matter, and carries off little in the inspissation of the tincture: the extracts of both sorts have a moderate warmth and bitterishness, differing in degree as the seeds themselves. These seeds have been commended as diuretics, similar to those of daucus, but weaker, which, in their sensible qualities, they apparently are: Haller reports, that those of the wild species, made into pills, with extract of liquorice, were much used by Boerhaave against nephritic complaints and ulcerations of the bladder.

3. PANAX: *Panax heracleum* Morison. *Panax pastinacæ folio* C. B. *Spondylia vel potius pastinacæ germanicæ affinis panax vel pseudocostus flore luteo* J. B. Hercules's allheal or woundwort: with uncut leaves, somewhat heartshaped, but having one of the sides lower than the other: the middle ribs, bearing the several sets of leaves, stand in pairs along a larger rib. It is a native of the warmer climates, and bears the colds of our own.

BOTH the seeds and the roots of this species are considerably warmer than those of the two preceding. The roots and stalks have

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(a) Ray, *Historia plantarum*, i. 420. Dan. Hoffmann, *Acta acad. cæsar. nat. curiosor.* vol. vi. anno 1742, obs. 128, p. 426.

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a strong smell and taste resembling those of opopanax; and Boerhaave relates, that on wounding the plant in summer, he obtained a yellow juice, which, being inspissated a little in the sun, agreed perfectly, in both respects, with that exotic gummy-resin. It is generally supposed to be from this plant, that the opopanax of the shops is extracted in the eastern countries.

P A R I E T A R I A.

PARIETARIA Pharm. Lond. *Helxine sive parietaria* Pharm. Edinb. *Parietaria officinarum* & *dioscoridis* C. B. PELLITORY OF

THE WALL: a plant with tender reddish stalks; rough, uncut, oblong leaves, pointed at both ends; and imperfect rough flowers, growing in clusters along the stalks, followed each by a small shining seed. It is perennial, common on old walls and among rubbish, and flowers in May.

THE leaves of pellitory of the wall have been used in cataplasms for discussing inflammatory swellings: decoctions of them, and their expressed juice, have been given as emollient diuretics in nephritic cases and ischuries, and are said, when long persisted in, to be useful aperients or sweeteners in cutaneous defecations. The plant appears to be of no great activity, being rather oleraceous than medicinal: to the taste, the leaves in substance and their juice, are little other than herbaceous and watery.

P E N T A P H Y L L U M.

PENTAPHYLLUM Pharm. Lond. *Quinquefolium majus repens* C. B. CINQUEFOIL, or FIVE-LEAVED GRASS: a trailing plant, with oval serrated leaves, set five together on long pedicles, and pentapetalous yellow flowers standing solitary on like pedicles: the cup is divided into ten unequal segments, the five innermost of which form a covering to a button of seeds: the root is long and slender, dark coloured on the outside, and reddish within. It is perennial, grows wild on open clayie grounds, and flowers in June.

THE roots of pentaphyllum are mild astringents, and give out their astringent matter both to water and spirit. They have been used in

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diarrhœas and other fluxes, in intermitting fevers, sometimes as corroborants and antiseptics in low colliquative acute fevers, in gargarisms for strengthening the gums, &c. Their virtue is confined chiefly to the red cortical part, the whitish woody fibre in the middle being nearly insipid.

P E R S I C A.

PERSICA MALUS Pharm. Edinb. *Persica molli carne vulgaris viridis & alba* C. B. PEACH: a tree common in gardens; with oblong, narrow, pointed, serrated leaves; pale reddish flowers, composed of five broad petals with numerous stamens in the middle, set in five-leaved reddish cups, adhering to the branches without pedicles; and a fleshy fruit covered with downy matter and including a furrowed stone.

THE flowers of the peach tree have an agreeable but weak smell, and a bitterish taste: Boulduc observes, that when distilled without addition, by the heat of a water bath, they yield one sixth their weight or more of a whitish liquor, which communicates, to a considerable quantity of other liquids, a flavour like that of the kernels of fruits. These flowers appear to be gently laxative: it is said, that an infusion in water of half an ounce of the fresh gathered flowers, or of a dram of them when dried, sweetened with sugar, proves, for children, an useful purgative and anthelmintic; and that the leaves, more unpalatable than the flowers, are somewhat more efficacious. The fruit is of the same quality with the other dulco-acid summer fruits: see *fructus borœi*.

P E R S I C A R I A.

ARSMART: an annual plant with oblong uncut leaves pointed at both ends, and imperfect flowers set in spikes on the tops of the stalks: the cup is thick and fleshy, divided into five oval segments, which, closing, form a cover to an angular glossy seed.

I. *PERSICARIA MITIS*: *Persicaria mitis maculosa* C. B. Pharm. Paris. *Plumbago*. Spotted arsmart; so called from most of the leaves having a blackish spot in the middle. It grows wild in moist watery places, and flowers in July.

THIS

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THIS plant is said to be a good vulnerary and antiseptic; and decoctions of it in wine, to restrain the progress of gangrenes (a). It has a slightly acerb taste inclining to acidity, and no remarkable smell.

2. *PERSICARIA URENS* Pharm. Edinb. *Persicaria urens* sive *hydropiper* C. B. Biting arsinart, lakeweed, water pepper: distinguished from the former by the spikes of flowers being slenderer; the leaves shorter, narrower, and without any spots; but more remarkably by its taste. In our markets, a plant of a different genus, the second of the *ranunculi* hereafter described, is sometimes sold for it.

THE leaves of this species have an acrid burning taste, and seem to be nearly of the same nature with those of arum; their acrimony not rising in distillation, and being destroyed in the process (b). They are commended as antiseptic, aperient, diuretic; in scurvies and cachexies, humoural asthmas, hypochondriacal and nephritic complaints, and in the wandering gout. The fresh leaves have been sometimes applied externally, in stimulating cataplasms, and for cleansing foul ulcers and consuming fungous flesh; in which last intention they are said to be used by the farriers.

P E R U V I A N U S C O R T E X.

PERUVIANUS CORTEX Pharm. Lond. *China china* sive *peruvianus cortex*, Pharm. Edinb. PERUVIAN BARK: the bark of a middling-sized tree, growing in Peru and as yet known but imperfectly to Europe, called by the Spaniards, from its efficacy against intermitting fevers, *palo de calenturas* or the fever tree. This virtue of the bark is said to have been discovered by the Indians about the year 1500, but not revealed to their European masters till 140 years after; when a signal cure having been performed by it on the Spanish viceroy's lady, the countess del Cinchon, it came into general use in those parts, and was distinguished by the appellations *pulvis comitissæ*, *cortex china china* or *chinchina*, *kina kina* or *kinkina*, and *quina quina* or *quinquina*. In 1649, a jesuit brought a large quantity of it into Italy, which was distributed by the fathers of that order, at a great price, in different parts of Europe: about the same time a quantity was purchased by cardinal de Lugo for the use of the poor at Rome. From these

3. I. 2

(a) Tournefort, *Memoires de l'acad. des scienc. de Paris*, pour l'ann. 1703.

(b) Ratty, *Synopsis of mineral waters*, p. 524.

M A T E R I A M E D I C A.

these it received the names of *cortex* or *pulvis jesuiticus*, *pulvis patrum*, and *pulvis cardinalis de Lugo*.

This bark is brought to us in pieces of different sizes, some rolled up into short thick quills and others flat: the outside is brownish, and generally covered in part with a whitish moss: the inside is of a yellowish, reddish, or rusty iron colour. The best sort breaks close and smooth, and proves friable betwixt the teeth: the inferiour kinds appear when broken of a woody texture, and in chewing separate into fibres. The former pulverises more easily than the latter, and looks, when powdered, of a light brownish colour, resembling that of cinnamon, but somewhat paler.

A bark was some time ago brought from America under the name of the female Peruvian bark. This was found, from experience, to be less effectual as a medicine than the genuine sort, which it was frequently substituted to or mixed with in France, insomuch that its importation, as the editor of Geoffroy informs us, was prohibited by law. It is considerably thicker, whiter on the outside, redder within, and weaker in smell and taste than the true bark.

PERUVIAN bark has a slight smell, approaching as it were to mustiness, yet so much of the aromatic kind as not to be disagreeable. Its taste is considerably bitter, astringent, very durable in the mouth, and accompanied with some degree of aromatic warmth but not sufficient to prevent its being ungrateful.

The febrifuge virtue, for which alone this medicine was at first recommended, has now been established by the daily experience of about a century: and that, when judiciously and seasonably administered, it proves as safe as it is effectual, is now also beyond dispute. An emetic, which is in most cases necessary, being taken towards the approach of a paroxysm, that its operation may be over before the fit comes on; the bark is begun at the end of the paroxysm, or even in the time of the hot fit, and repeated, in doses of half a dram or more, every third or fourth hour, during the intermission: after the fever has been removed, the medicine is continued for a time, but more sparingly, to prevent a return. During the use of the bark, the pulse, which betwixt the paroxysms is generally weak and slow, becomes stronger and quicker, the appetite mends, the patient grows more chearful, and perspiration increases: these may be looked upon as sure presages of its success. At first it frequently occasions a looseness, and this also is salutary; but if the purging runs on too long, as the fever rarely yields while

while this evacuation continues, it is usually checked by the addition of a little opium: if too great costiveness ensues, recourse is had to glysters. In gross impure habits, gentle purgatives are premised to the bark, or given for a time in conjunction with it: in agues of the inflammatory kind, or accompanied with great heat, a little nitre is joined or interposed: in lax spongy constitutions, and a thin watery state of the blood, the bark is assisted by bitters, snakeroot, camphor, and chalybeates: where obstructions of the abdominal viscera are apprehended, it is not ventured on without the addition of fixt alkaline salts, sal ammoniac, or other aperients. In all cases, moderate exercise, and the drinking of warm liquids, promote its effects.

In remitting fevers, this medicine is less successful than in those which have perfect intermissions: in hectic, or wherever pus is formed, or juices are extravasated, it does harm. In the decline of long nervous fevers or after a remission, and in those of the low malignant kind where the blood is colliquated and the strength exhausted, it proves an excellent cordial, corroborant, and antiseptic.

Peruvian bark has likewise been found serviceable in gangrenes and mortifications, and in foul obstinate ulcers and running sores of other kinds: in these cases, taken in large and repeated doses, it frequently brings on a laudable suppuration, which degenerates on discontinuing the use of the medicine, and again turns kindly upon resuming it. The like effects have been observed from it in variolous cases, where either the pustules did not duly suppurate, or petechiæ shewed a disposition to a gangrene: by the use of bark, the empty vesicles filled with matter, watery sanies changed into thick white pus, and the petechiæ became gradually paler and at length disappeared. The principal symptom in this disease that contraindicates this valuable suppurant and antiseptic, is great obstruction at the breast or difficulty of breathing; which are always by this medicine increased, insomuch that small doses have in some cases endangered suffocation.

In tumours of the glands, the Peruvian bark appears to promote, not suppuration, but resolution. In the medical observations and inquiries published by a society of physicians in London, there are several instances of its being given with success in scrophulous complaints. Dr. Fothergil observes, that inveterate ophthalmiæ generally yield to it: that beginning glandular tumours are very frequently resolved and their farther progress stopt by it: that swelled lips, cutaneous blotches arising from a like cause, are healed, and the tendency to a strumous habit corrected: that it does not succeed in all cases,

but

but that there are few in which a trial can be attended with much detriment: that he has never known it to avail where the bones were affected, or where the scrophulous tumour was so situated as to be attended with much pain, as in the joints or under the membranous covers of the muscles; for when it attacks these parts, the periosteum, and consequently the bone, seldom escape being injured; that here the bark, instead of lessening, adds to the fever which accompanies these circumstances, and if it does not increase the force of the mischief, seems at least to hasten its progress.

Peruvian bark has been applied likewise, in conjunction with other appropriated medicines, and often with good success, to the cure of periodic headaches, hysterical, hypochondriacal, vertiginous and epileptic complaints, and other disorders that have regular intermissions. By its bitterness, astringency, and mild aromatic warmth, it strengthens the whole system, and proves a medicine of great utility in weakness of the stomach, uterine fluxes, and sundry chronical diseases proceeding from a laxity and debility of the fibres. To strengthen the solids appears indeed, in all cases, to be its primary operation; and its salutary virtues in different diseases, to be no other than consequential effects of this general power. In all the distempers where bark is known to take place, other astringent and bitter medicines, singly or combined, have likewise been of service, though not equally with this natural combination of them.

THE virtues of this bark are very difficultly extracted by long coction in water, and part of what the liquor is by heat enabled to take up begins to separate as soon as it is cold. This resinous part, which is rather melted out by the boiling heat than dissolved by the water as a menstruum, seems to contain chiefly the astringency of the drug: the bitter matter appears to be perfectly dissoluble, though more difficult to be got completely out.

On boiling a pound of powdered bark for an hour or two in five or six quarts of water, the decoction whilst hot looks clear and reddish, but in cooling becomes turbid and of a pale yellowish or wheyish hue: in this state it is found to partake, in a great degree, both of the bitterness and astringency of the bark, but in proportion as it deposits the matter that made it turbid, it loses more and more of its stypticity, the bitterness seeming to continue undiminished. The remaining bark, boiled in fresh water, exhibits the same appearances for two or three times successively; and when, at length, it ceases to render the
water

water turbid, it imparts a bitterness without astringency, retaining still some share of bitterness itself. The vapour which exhales in the first coction, being caught in proper vessels, condenses into a limpid liquor which smells strongly of the bark; though no separable oil is obtained on submitting many pounds to the operation. The several decoctions, strained and inspissated together, yield an extract, rather less bitter, and much less styptic, than the bark in substance: this extract is kept in the shops in a soft and a hard form; the one of a proper consistence for making into pills, the other fit for being reduced into powder *.

As decoctions of bark lose of their virtue in being made fine by settling and colature, they are generally directed to be taken turbid, only the grosser part of the powder being separated by passing them through a sieve. This form does not appear to be superiour, in elegance, any more than in efficacy, to draughts with the bark in substance: a mixture of the fine powder with infusion of liquorice and a little of any grateful aromatic water, is far more palatable than the turbid decoction. Among all the materials I have tried for covering the taste of bark, liquorice, or its extract, were found to answer the purpose most effectually, whether in a liquid form or in that of an electuary.

* Extr. cort.
peruv. molle
& durum.
Pharm. Lond.

As this drug gives out its virtue so difficultly and imperfectly to boiling water, it has not been suspected that cold water would have any considerable action on it: I have nevertheless found, that an infusion in cold water is rather stronger in taste than even the turbid decoction, though the latter has somewhat more of a kind of fulness in the mouth. It is by means of a gummy matter in vegetables, that the resinous parts become dissoluble in watery liquors; and it seems probable that, in boiling, part of the gummy principle of the bark is hastily dissolved and disunited from the resinous, whereas cold water, acting more gradually, extracts them both together. The cold infusions strike a black colour with chalybeate solutions; which I have not observed any of the decoctions to do, at least in any considerable degree, whether turbid or transparent; a proof that the former contain the astringent matter of the bark in a perfectly dissolved state, and the latter not. I have given the infusions in intermitting fevers as well as other disorders, with all the success that could have been expected from any preparation of this valuable medicine: the proportions commonly followed were, one ounce of the powdered bark and eight or twelve of water, which were macerated without heat for twenty--

twenty-four hours, and the clear liquor given in doses of two or three ounces.

It is a common opinion, that bark in substance is more effectual than any preparation of it. Thus much is plain, that the infusions, as well as the decoctions, have not near so much effect as the quantity of bark they were made from, as the menstruum does not in either case completely extract its active matter: but their effects are evidently the same in kind, and the difference in degree may be compensated by an increase in the quantity.

The turbid decoctions, on the addition of any of the concentrated mineral acids, in the proportion of one drop to about a quarter of an ounce, become transparent, of a bright pale yellow colour, and of a rougher or more acerb taste, but with the loss of their bitterness: the vegetable acids, added in proportionably larger quantity, render them likewise transparent and improve their roughness, without much diminishing their bitterness: all these mixtures deposite, on standing, a little powdery sediment. Alkalies, both fixt and volatile, occasion a more copious precipitation, and instead of making the turbid decoctions clear, make the clear turbid.

Rectified spirit of wine receives from bark a deep reddish brown colour, and takes up much more of its active matter than watery liquors: by digesting the powder first in some rectified spirit, and then boiling it in water, nearly the whole of its virtue is pretty readily got out. On inspissating the filtered tincture, the spirit carries off nothing remarkable of its smell or taste: the remaining extract retains the peculiar flavour of the bark, as well as its astringency and bitterness, and proves a very elegant preparation, preferable to the pure resin obtained by precipitation from the tincture by water *, as having the resinous part somewhat divided by an admixture of the gummy. The spirituous tincture, and the decoction of the residuum, may be united into an extract, possessing this advantage in a greater degree, by inspissating them separately to the consistence of a syrup, then mixing them together, and continuing the evaporation with a gentle heat †.

* Resina cort.
peruv. P. E.

† Extr. cort.
peruv. P. E.

‡ Tinct. cort.
peruv. P. L.

Proof spirit extracts less from bark than rectified spirit, but more than water. Four ounces of the powder, macerated for some hours without heat, in a quart of proof spirit, impart a considerable degree both of bitterness and astringency: on applying heat ‡, the taste becomes stronger, the colour darker, and the liquor somewhat turbid; from whence it may be concluded, that the resinous part is not by this menstruum completely dissolved.

Spirit of sal ammoniac made with fixt alkaline salt, by maceration with powdered bark in the above proportion, receives from it very little taste or colour. The spirit prepared with quicklime, and the dulcified spirit, extract in a few hours a very deep colour and become strongly impregnated with its virtue. Though the spirit made with quicklime is held too acrimonious to be given internally by itself, it is not liable to that objection here; its pungency being sheathed by the substance which it dissolves.

P E T A S I T E S.

PETASITES Pharm. Edinb. *Petasites major & vulgaris* C. B. *Galerita & tussilago major quibusdam.* BUTTERBUR or PESTILENTWORT: a perennial plant, found wild by the sides of ditches and in meadows; producing early in the spring a thick naked roundish stalk, with a spike of small naked purplish flosculous flowers on the top: the flowers and stalks soon wither, and are succeeded, about May, by very large, roundish or somewhat heartshaped leaves, standing on long pedicles, somewhat hollowed in the middle so as to resemble a bonnet (*petasos*): the root is long, thick, of a dark brownish or black colour on the outside, and white within.

THE roots of butterbur are recommended as aperient and alexipharmac; and promise, though now disregarded in practice, to be of considerable activity. They have a strong smell, and a bitterish acrid taste, of the aromatic kind, but not agreeable, very durable and diffusive, scarcely to be concealed, as Fuller observes, by a large admixture of other substances. Their virtue appears to reside in a resinous matter; which is distinguishable by the eye in the dried root, and which is readily extracted by spirit of wine.

P E T R O L E U M.

PETROLEUM, *Oleum petræ, oleum terræ.* ROCK OIL: a fluid bitumen or mineral oil; exuding from the clefts of rocks or from the earth, or found floating on the surface of waters, in different parts of Europe, and more plentifully in the warmer countries; similar, in its general properties, to the oils extracted by distillation from pitcoal, amber, and other solid bituminous bodies. The more fluid petrolea
3 K have

have been distinguished by the name of *naphtha*; and the thicker by those of *pissasphaltum* and *pisselæum*.

1. PETROLEUM ALBUM. White petroleum: nearly colourless; almost as clear, fluid, and transparent, as water; of a strong penetrating smell, not disagreeable, somewhat resembling that of rectified oil of amber. The principal, or only, part of Europe, in which it is found, is the dutchy of Modena in Italy.

2. PETROLÆUM FLAVUM *seu italicum Pharm. Paris*. Yellow petroleum: of a clear yellow colour; somewhat less fluid than the former; in smell rather less penetrating, less agreeable, and more nearly allied to that of oil of amber. This also is found chiefly in the dutchy of Modena, and does not appear to differ very materially from the white sort.

3. PETROLÆUM RUBRUM *seu gabianum, sive oleum gabianum Pharm. Paris*. Red petroleum: of a blackish red colour; of a thicker consistence, and a less penetrating and more disagreeable smell, than either of the foregoing; found in Italy, and about the village Gabian in Languedoc.

There are many variations of these oils in regard to colour, fluidity, subtility, and the pungency of their smell and taste: the most fluid are in general the most subtile and pungent. Among us, the finer kinds are rarely to be met with; and even the inferiour sorts are rarely unsophisticated.

Fine petroleum catches fire on the approach of a flaming body (even without the contact of its substance with the flame) and burns entirely away. The hasty affusion of concentrated mineral acids, which raises a violent ebullition with distilled vegetable oils, and generally sets them on fire, makes no great conflict with petroleum: its consistence becomes thicker by this admixture, and its smell more fragrant. By distillation, it loses much of its natural scent, and becomes somewhat more pellucid than at first; a small quantity of a brownish or yellowish matter, similar to amber (*a*), remaining behind. Dropt on water, it spreads to a great distance, forming a various-coloured film on the surface. It floats also on rectified spirit of wine, and ap-
pears

(a) Borrichius, *Acta medica & philosoph. Hafniensia*, tom. i. obj. 57.

appears to be indissoluble in this menstruum; but unites with the essential oils of vegetables (a).

The finer petrolea, more agreeable than oil of amber and more mild than that of turpentine, partake of the virtues of both. They have been sometimes taken internally in nervous complaints and as a diuretic; but used chiefly as an external stimulant, against rheumatic pains, palsies, chilblains, &c. In these intentions, some mineral oils, procurable among ourselves, are used by the common people, and often with benefit: the empirical medicine, called British oil, is of the same nature with the petrolea; the genuine sort being extracted by distillation from a hard bitumen, or a kind of stone-coal, found in Shropshire and other parts of England.

4. PETROLEUM BARBADENSE *Pharm. Lond.* *Bitumen barbadense; pisselæum indicum.* Barbadoes tar: of a reddish black colour, and a thick consistence, approaching to that of treacle or common tar. It is found in several of our American islands, particularly, as is said, in that from which it receives its name.

THIS bitumen, greatly esteemed by the Americans as a sudorific, in disorders of the breast, and as an external discutient and antiparalytic, is in smell more disagreeable, and both in smell and taste less pungent than the foregoing petrolea. It is likewise less inflammable, and leaves on being burnt a considerable quantity of ashes. In distillation, it yields an oil * different, in regard to its colour, from those afforded by such of the other bitumens as have been examined; appearing, when placed betwixt the eye and the light, of an orange colour, in other positions blue; but losing this variability of aspect in long keeping, and then looking in all situations yellow. This oil, and a balsam prepared by boiling the petroleum itself with one fourth its weight of flowers of sulphur †, are directed by the London college to be kept in the shops.

* *Ol. petrolei
barbadensis
Ph. Lond.*

† *Bals. sulph.
barbadense
Ph. Lond.*

P E T R O S E L I N U M.

PETROSELINUM VULGARE *Pharm. Lond.* *Petroselinum sive apium hortense Ph. Edinb.* *Apium hortense seu petroselinum vulgo C. B.* PARSLEY: an umbelliferous plant, with deep green
3 K 2 winged

(a) *Voy. l'Histoire & les memoires de l'acad.-roy. des. scienc. de Paris, pour les années 1715 & 1726.*

winged leaves, of which those that grow on the stalk are divided into fine oblong narrow segments: the seeds are small, somewhat crookedly plano-convex, of a dusky greenish colour, with four yellow ridges along the convex side; the root long, whitish, about the thickness of the finger. It is biennial, a native of moist grounds in the southern parts of Europe, and common in our culinary gardens.

THE roots of parsley are sometimes used in apozems, and supposed to be aperient and diuretic, but liable to produce flatulencies. Their taste is sweetish, accompanied with a slight warmth or flavour, somewhat resembling that of a carrot. Rectified spirit takes up, by digestion, all their active matter, and on inspissating the tincture, leaves it entire in the extract; in which, the sweetness is very considerable, the warmth very weak. Distilled with water, they impregnate the first runnings pretty strongly with their flavour: when large quantities are distilled, there separates a small portion, two or three drams from two hundred pounds, of essential oil, which partly swims on the water, partly sinks, and partly concretes about the nose of the worm into a butyraceous matter.

The leaves of the plant have a greater warmth and less sweetness than the roots. In distillation with water, they yield a greater quantity of essential oil, about ten drams from two hundred pounds, smelling agreeably of the herb, and in taste moderately pungent.

The seeds, said to be carminative, resolvent, and diuretic, and commended in the German ephemerides for destroying cutaneous insects in children, are in taste warmer and more aromatic than any other part of the plant, and accompanied with a considerable bitterness. In distillation, three pounds yielded above an ounce of essential oil, great part of which sunk in the watery fluid. They give out little by infusion to watery menstrua, but readily impart all their virtue to rectified spirit: the tincture loses nothing considerable in being gently inspissated to the consistence of an extract, which proves a moderately warm, pungent, bitterish, not very grateful, aromatic.

PETROSELINUM MACEDONICUM.

PETROSELINUM MACEDONICUM Pharm. Lond. *Apium macedonicum* C. B. *Apium petræum* & *petrapium* quibusdam. MACEDONIAN PARSLEY: differing from the foregoing, in the upper and lower leaves being alike, the stalks hairy and much branched,

the seeds dark coloured and covered with a rough hoariness. It is a native of stony soils in Macedonia, and cultivated in some of our gardens.

THE Macedonian parsley is similar in quality to the common sort, but weaker and less grateful. The seeds are the only part made use of, and these only as ingredients in the mithridate and theriaca: hence the Edinburgh college, having now dropt those compositions, has dropt also the Macedonian parsley.

P E U C E D A N U M.

PEUCEDANUM Pharm. Edinb. *Peucedanum germanicum* C.B. *Pinastellum, fœniculum porcinum, fœniculum silvestre, marathrum silvestre, marathrophyllum, & cauda porcina quibusdam.* HOGS

FENNEL, HORESTRONG, SULPHURWORT: an umbelliferous plant, with large leaves divided and subdivided tripartitely into fine oblong narrow segments: the seed is somewhat oval, flattish, marked with three striæ, and surrounded with a leafy margin: the root long and thick, with a tuft of filaments on the top, blackish on the outside and pale coloured within. It is perennial, grows wild by the sea shores and in moist shady grounds, and flowers in July.

THE roots of sulphurwort have a strong fetid smell, somewhat resembling that of sulphureous solutions; and an unctuous, subacid, bitterish taste. Wounded when fresh, in the spring or autumn, particularly in the former season, in which they are most vigorous, they yield a considerable quantity of yellow juice, which soon dries into a solid gummy-resin, retaining the taste and the strong smell of the root. This gummy-resin stands recommended as an aperient, and antihysterical.

P I L O S E L L A.

PILLOSELLA, *myosotis, seu auricula muris* Pharm. Paris. *Pilosella major repens hirsuta* C.B. MOUSE-EAR: a low creeping hairy plant; with oval leaves, in shape like those of the daisy, joined to the stalks without pedicles, green above and white underneath: the flowers, which stand solitary on upright naked stalks, are composed of a number of yellow floscules, set in scaly cups, and followed by small black

black seeds winged with down. It is perennial, grows wild in dry pasture grounds, and flowers in June and July.

PILOSELLA is one of the bitterish lactescent plants. Its leaves differ from those of dandelion, cichory, and the other herbs of that class, in being much less juicy, less bitter, accompanied with some astringency which seems to prevail above the bitter, and a slight sweetish-ness very durable in the mouth: in the extracts made from them, both by water and spirit, the astringency is more manifestly the prevailing principle, though even when thus concentrated it is not very strong. The roots are considerably bitterer than the leaves, and less, if at all, astringent.

P I M P I N E L L A.

PIMPINELLA SAXIFRAGA Pharm. Lond. & Edinb. BURNET-SAXIFRAGE: a perennial umbelliferous plant; with naked umbels; the outermost flowers composed of unequal petals, the inner equal; the seeds small, oblong, somewhat pointed, flat on one side, convex and striated on the other; the lower leaves roundish, indented, set in pairs along a middle rib with an odd one at the end; the upper leaves oblong and very narrow; the roots long, slender, and whitish.

1. *PIMPINELLA ALBA Germanorum: Pimpinella saxifraga major umbella candida C. B.* Greater or white burnet-saxifrage: with some of the leaves pretty deeply cut, the odd one into three sections. It is not very common in this country, and therefore our markets have been generally supplied with the following.

2. *PIMPINELLA SAXIFRAGA: Pimpinella saxifraga minor foliis sanguisorbæ Raii; Tragoselinum alterum majus Tourn.* Smaller burnet saxifrage; with uncut leaves. It grows wild in dry pasture grounds.

3. *PIMPINELLA SAXIFRAGA MINOR C. B. Tragoselinum minus Tourn.* Small burnet-saxifrage; with the upper leaves divided into oblong narrow segments; taller than the others, but with smaller leaves. This is the most common sort in the fields about London.

ALL these plants appear to be possessed of the same qualities, and to differ little otherwise than in external appearance: and even in this, their difference is so inconsiderable and inconstant, that Linnæus has joined them into one species, under the name of *pimpinella foliis pinnatis, foliolis radicalibus subrotundis, summis linearibus*: he says he has
seen

seen the second sort produced from the seeds of the first sown in a richer soil. Instead of the first, which has been generally understood as the officinal kind, our college allows either of the others to be taken indifferently.

The roots of pimpinella have a hot, pungent, not very durable taste; and emit, when fresh, an acrid halitus, of no particular smell, but affecting the eyes like that of horseradish or mustard seed, though in a lower degree. In drying, they lose this subtile matter, and in long keeping the pungency of their taste is diminished. Their virtue is extracted, partially by water, and completely by rectified spirit. In distillation with water, a part of their pungency arises and impregnates the distilled fluid, and a part remains behind in the decoction: when large quantities are distilled, there separates from the water a small portion of a yellowish essential oil extremely acrid and fiery. On inspissating the spirituous tincture, little or nothing of the virtue of the pimpinella rises with the spirit: the remaining extract, small in quantity, is of great pungency and heat. The leaves and seeds of the plant have likewise a considerable acrimony; the leaves less than the seeds, and both less than the roots.

This pungent root is in great esteem among the Germans, as a warm stimulating resolvent, aperient, diaphoretic, &c. in weakness of the stomach from viscid phlegm, infarctions of the breast, tumours and obstructions of the glands, impurities of the blood, and in general wherever tenacious humours are to be attenuated, or the fluid secretions promoted. It is an useful ingredient in our officinal compound arum powder, supplying in good measure the pungency which the arum root loses in being reduced into that form. It is employed also as a masticatory for stimulating the salival glands; and in gargarisms for dissolving viscid mucus in the fauces.

P I N G U E D O.

P I N G U E D O *sive adeps*: *Sevum ovillum & hircinum, Axungia porcina & viperina.* ANIMAL FATS: sheeps suet, goats suet, hog-lard, and vipers fat.

THE medical use of these substances is wholly external as the basis of ointments and other unctuous applications. In their effects, they do not seem to differ materially from one another; all of them having one common emollient virtue, suppling and relaxing the part to which they

they are applied, and obstructing its perspiration. The principal difference to be considered in them is that of their consistence, by which they are adapted to different forms, or for receiving different admixtures; the solid *seva* serving to give the thick consistence of an unguent to oils and the more fluid resinous juices, while the softer *axungia* procure a like consistence to solid resins and powders. The fat of the viper is commonly preferred to the others in affections of the eyes; but its superiority, in these cases, to other soft fats, does not appear to have been sufficiently determined by experience. Nor indeed does it appear, that animal fats, and flavourless vegetable oils, of similar consistences, are materially different, respectively, from one another, in their effects when used in external applications. Even in regard to qualities, more remote than those, by which they can act when applied to the external parts of the body, the difference between the vegetable and animal fats is, perhaps, less than might be expected, and apparently less than that which is observed between the other corresponding substances of the two kingdoms, as the gelatinous matters of the one and the gummy of the other: animal fats, in their resolution by fire, yield neither the peculiar stench, nor the volatile alkaline salt, which substances completely animalized afford.

Lard and suet are directed to be tried or purified, by chopping them into small pieces; melting them by a gentle heat, with the addition of a little water, which secures them from any danger of burning or turning black, this fluid not being susceptible of a degree of heat sufficient for that effect; and then straining them from the membranes *. Vipers fat, separated from the heart, liver, and other bloody parts, is ordered to be melted without addition, and then strained through a linen cloth †; the quantity of this fat, usually purified at a time, being so small, that the heat may be easily regulated, so as to prevent burning, without water.

Tried lard is formed into an elegant ointment, commonly called pomatum, by beating it with rosewater, in the proportion of three ounces of the water to two pounds of the lard, till they are well mixed; then melting it over a very gentle fire, and after standing for a little while that the watery part may settle, pouring off the lard, and incessantly stirring and beating it about till it grows cold, so as to reduce it into a light yielding mass; and afterwards adding so much essence of lemons as will be sufficient to give a grateful smell ‡. Some scent it with oil of rhodium; and previously digest the lard for ten days

* *Axungia*
porcinæ sevi-
que ovilli cu-
ratio

Pb. Lond.

† *Axungia*
viperinæ cu-
ratio *P. L.*

‡ *Unguentum*
Simplex P. L.

days with common water, renewing the water every day *, a process which does not appear to be of much use. These ointments may be tinged of a fine red colour, for lip-salves, by a proper addition of alkanet root: the faculty of Paris directs, for this purpose, twenty-four parts of the white pomatum, eight of oxes marrow, and eight of white wax cut in small pieces, to be melted together by the heat of a water-bath; one part of powdered alkanet root to be added; the mixture stirred at times till it appears tinged of a deep red colour, and then strained through a linen cloth †.

*Unguent. ro-
faceum, vulgo
pomatum P.E.

Animal fats are not dissoluble by spirit of wine any more than by water: when scented with essential oils, the oil may be totally extracted by digestion in rectified spirit, so as to leave the fat inodorous. By the same menstruum, fats may be freed from their ill smell, and even those that have grown considerably rancid by keeping may be made sweet again as at first; the rancidity and smell seeming to consist in a part of the fat attenuated, or subtilized, into a state analogous to that of the oil into which fats are resolved by distillation; which oil is totally dissoluble in spirit.

† Pomatum
rubrum P.
Paris.

P I N G U I C U L A.

P I N G U I C U L A: *Sanicula montana flore calcari donato* C. B. *Pinguicula sive sanicula eboracensis* Gerard. *Viola palustris, liparis, cucullata, & dodecatheon plinii quibusdam.* BUTTERWORT or YORKSHIRE SANICLE: a small plant; with a few, oblong, obtuse, uncut, pale, glossy, unctuous leaves, lying on the ground; among which rise naked pedicles, bearing, each, a purplish monopetalous flower divided into two lips (of which the upper is cut like a heart, the lower into three sections) with a slender cylindrical spur or tail at bottom: the flower is followed by a roundish capsule full of small seeds. It is perennial, grows wild in elevated marshy grounds, and flowers in the spring.

THE remarkable unctuousity of this plant, and of some others of the same genus, seems to entitle them to a further examination than has yet been bestowed upon them (a). It is said, that the unctuous and glutinous juice of the *pinguicula* is used in some places as a liniment

3 L

for

(a) Linnæus, *Flora lapponica*, p. 10.

for chaps (*b*), and as a pomatum for the hair (*c*): that new milk, poured upon the fresh leaves, on a strainer, and after quick colature, set by for a day or two, becomes thick, tenacious, very agreeable and salubrious, and throws off no whey unless long kept; and that a little of the milk, so thickened, serves for bringing fresh milk to the same state (*d*): that a syrup made from the juice, and decoctions of the leaves in broth, are used among the common people in Wales as cathartics (*b*): and that the herb is hurtful to cattle that feed upon it (*e*).

P I P E R.

PEPPER: the small, round, aromatic fruit of a trailing plant growing in Sumatra, Java, and Malabar. The pepper-corns adhere in clusters to the stalks, without pedicles: when ripe, they are firm, not juicy, of a red colour which changes in drying to a black.

1. PIPER NIGRUM *Pharm. Lond. & Edinb.* *Melanopiper.* Common or black pepper: the fruit gathered, probably, before perfect maturity, and dried in the sun.

2. PIPER ALBUM *Pharm. Lond. & Edinb.* *Leucopiper.* White pepper: the ripe fruit decorticated by maceration in water. Some of the grains, as brought to us, have pieces of a dark coloured skin still upon them.

OF these pungent hot spices, the black sort is the hottest and strongest, and most commonly made use of for medicinal as well as culinary purposes. They both seem to heat the constitution more than some other spices that are of equal pungency upon the palate; and from those spices they differ in this, that their pungency does not reside in the volatile parts or essential oil, but in a substance of a more fixt kind, which does not rise in the heat of boiling water.

Pepper, infused in water, impregnates the menstruum pretty strongly with its flavour, but weakly with its taste: by boiling for some time, a little more of its pungent matter is extracted, and its flavour dissipated. On collecting the fluid that exhales in the boiling, the water is found agreeably impregnated with the odour of the spice, but scarcely discovers any taste: the essential oil, which rises to the surface

(*b*) Simon Pauli, *Quadripartit. botanic.*

(*c*) Ray, *Historia plantarum*, i. 752.

(*d*) Gislér, *Svenska vetenskaps akademiens handl.* 1749.

(*e*) Gerard, *Herbal emaculated*, p. 789.

face of the water, thin, light, and limpid, in smell strong and agreeable, is in taste mild; a drop or two impressing on the tongue only a moderate grateful warmth. On inspissating the decoction, a part of the pungency of the pepper is found in the mucilaginous extract, and a part is retained by the pepper itself.

Rectified spirit extracts completely the active matter of the pepper. The tincture is extremely hot and fiery, a few drops setting the mouth as it were in a flame; inspissated, it leaves an extract still more fiery; the spirit carrying off in its exhalation a little of the flavour, but nothing of the heat or pungency of the spice. The quantity of extracts is nearly the same from both kinds of pepper; the spirituous amounting to about one eighth, and the watery to near one half their weight: but those of the white, like the spice in substance, are weaker than those of the black sort.

P I P E R L O N G U M.

PIPER LONGUM Pharm. Lond. & Edinb. *Macropiper*
Pharm. Paris. *Piper longum orientale* C. B. LONG PEPPER:
 the fruit of an East Indian plant of the same genus with that which produces the black pepper (*a*); of a cylindrical figure, about an inch and a half in length, having numerous minute grains disposed round it in a kind of spiral direction.

THIS spice is hotter and more pungent than either of the preceding kinds, and its spirituous extract is proportionably more fiery. In pharmaceutical properties, it entirely agrees with them; its active matter being only partially dissoluble in watery menstrua, and its pungency not rising in the heat of boiling water. Decoctions of it are very mucilaginous, rather more so than those of the black or white.

P I P E R J A M A I C E N S E.

PIPER JAMAICENSE Pharm. Lond. *Piper jamaicense*
five pimenta Pharm. Edinb. *Amomum* Pharm. Wirtemberg. JA-
 MAICA PEPPER, PIMENTO, ALL-SPICE: the dried aromatic berry of a large tree growing in the mountainous parts of Jamaica, reckoned

3 L 2

a

(a) Linnæus, *Species plantarum*, p. 28. 29.

a species of myrtle, and called by Sir Hans Sloane *myrtus arborea aromatica foliis laurinis*, by Linnæus *myrtus foliis alternis*.

Pimento is a moderately warm spice, of an agreeable flavour; somewhat resembling that of a mixture of cloves, cinnamon, and nutmegs. Distilled with water, it yields an elegant essential oil, so ponderous as to sink in the aqueous fluid, in taste moderately pungent, in smell and flavour approaching to oil of cloves, or rather a mixture of those of cloves and nutmegs: the remaining decoction, inspissated, leaves an extract somewhat ungrateful but not pungent, and the berry itself is found to be almost wholly deprived of its taste as well as flavour; the warmth of this spice residing rather in the volatile than in the fixed parts. To rectified spirit it imparts, by maceration or digestion, the whole of its virtue, together with a brownish green tincture: in distillation, it gives over nothing considerable to this menstruum, nearly all its active matter remaining concentrated in the inspissated extract; which is very warm and pungent, but not of a fiery heat like those obtained from the foregoing sorts of pepper.

This spice, at first brought over for dietetic uses, has been long employed in the shops as a succedaneum to the more costly oriental aromatics: from them it was introduced into our hospitals, and is now received both in the London and Edinburgh pharmacopœias. The college of London directs a simple water to be distilled from it, in the proportion of a gallon from half a pound *: this is strongly impregnated with the flavour of the pimento, though it is less elegant than the spirituous water which the shops have been accustomed to prepare, by drawing off two or three gallons of proof spirit from the same quantity of the spice. The essential oil does not seem to be much known in practice; though it promises to be a very useful one, and might, doubtless, on many occasions, supply the place of many of the dearer oils. The quantity of oil afforded by the spice is very considerable: Cartheuser indeed says, that only about half a dram is to be got from sixteen ounces; a mistake, which probably has arisen from inadvertence in copying Neumann's proportion, of half a dram from an ounce; or one sixteenth: so large a proportion as this last cannot, however, be collected in its proper form, the oil that remains dissolved in the distilled water being here included.

* Aq. piperis
jamaicensis
Ph. Lond.

P I P E R I N D I C U M.

CAPSICUM Pharm. Paris. *Piper indicum, brazilianum, guineense, calecuticum, hispanicum, & lusitanicum, quibusdam; Capsicum siliquis longis propendentibus Tourn. Siliquastrum plinii J. Bauh.*

CAPSICUM OR GUINEA PEPPER: long, roundish, taper, bright red pods, divided into two or three cells full of small whitish seeds: the fruit of an annual plant, with square stalks, oblong acuminate leaves, and white flowers growing in their bosoms divided into five segments in form of a star; a native of the East and West Indies, and raised in some of our gardens.

THIS fruit, when fresh, discovers to the organs of smell, a penetrating acrid halitus, which in drying is dissipated: its taste, whether fresh or dry, is extremely pungent and acrimonious, setting the mouth as it were on fire, and producing a painful burning vellication of long continuance, like that occasioned by arum root, but more of the warm aromatic kind. It gives out its pungency to rectified spirit, together with a pale yellowish red tincture: the spirit, gently distilled off, has no considerable impregnation from the capsicum: the remaining extract is insupportably fiery.

Capsicum is sometimes given, in minute quantities, as one of the highest stimulants, in cold sluggish phlegmatic temperaments, in some paralytic cases, in relaxations and insensibility of the stomach, and for promoting the efficacy of aloetic medicines and the deobstruent gums in uterine disorders. It is used principally at table: a species of it, called in the West Indies bird-pepper, is the basis of the powder brought from thence under the name of Cayan pepper. It is observable that this fruit, perhaps the strongest of the aromatic stimulants, is used freely, as is said, by the natives even of the warm climates: possibly these pungent antiseptic kinds of substances may there be more salubrious than they are, in general, among us, as they seem qualified to resist or correct the putredinous colliquation of the humours which immoderate heat produces.

P I X.

PIX LIQUIDA Pharm. Lond. & Edinb. TAR: a thick, black, resinous, very adhesive juice; melted out by fire from old pines and fir trees. The trees, cut in pieces, are inclosed in a large oven,

oven, which being heated by a fire on the outside, or the wood itself kindled and smothered, the juice runs off by a canal at the bottom...

TAR differs from the turpentine or native resinous juice of the trees (see *terebinthina*) in having received a disagreeable empyreumatic impression from the fire; and in containing, along with the pungent bitter terebinthinate matter, a portion of the acid which is extricated from the wood by the heat, and likewise of its gummy or mucilaginous matter. By the mediation of these principles, a part of the terebinthinate oil and resin becomes dissoluble in watery liquors, which extract little or nothing from the purer turpentine.

Water impregnated with the more soluble parts of tar has been recommended as a remedy for almost all diseases. The proportions that have been commonly followed are, two pounds of tar to a gallon of water; which are to be well stirred together, then suffered to settle for two days, and the clear liquor poured off for use. It is observed, that "tar-water, when right, is not paler than French, nor deeper
" coloured than Spanish white wine, and full as clear: if there be
" not a spirit very sensibly perceived in drinking, the tar-water is not
" good. It may be drank either cold or warm. As to the quantity,
" in common chronical indispositions a pint a day may suffice, taken
" on an empty stomach, at two or four times: more may be taken by
" strong stomachs. But those who labour under great and inveterate
" maladies, must drink a greater quantity, at least a quart every
" twenty-four hours. In acute cases, it must be drank in bed warm,
" and in great quantity (the fever still enabling the patient to drink)
" perhaps a pint every hour." Though this medicine is undoubtedly very far inferior to the character that has been given of it, it is apparently capable of answering important purposes, as a deobstruent balsamic solution, moderately warm and stimulating. It sensibly raises the pulse, and increases either perspiration or the grosser evacuations. I have been informed of some late instances of its good effects in disorders of the leprous kind.

Some have imagined the acid to be the principle that gives virtue to tar-water; and hence have endeavoured to introduce, instead of the infusion, an acid spirit extracted from tar by distillation. But the effects of this, as of other acids, are opposite to those experienced from tar-water; nor does the acid of tar differ from that which is extricated by fire from all kinds of recent wood. Tar-water, distilled, yields a liquor very considerably impregnated with its flavour, though more grateful

grateful than the infusion itself both in smell and taste: there remains a light, spongy, blackish substance, not acid but bitter, partially dissoluble again in water.

This juice is sometimes given also in substance, mixed with so much powdered liquorice, or other like powdery matters, as is sufficient to render it of a due consistence for being formed into pills *. An ointment, made by melting it with an equal weight of mutton suet, and straining the mixture whilst hot †, is sometimes used as a digestive, and said to be particularly serviceable against scorbutic and other cutaneous eruptions.

* Pil. pice
Nosocom. E

† Unguent. e
pice Ph. L.

On inspissating tar, or boiling it down to dryness without addition, it gives over an acid liquor in considerable quantity, and an ethereal oil of the same general nature with that of turpentine, but impregnated with the empyreumatic flavour of the tar. The solid residuum is the common pitch, *pix arida* Ph. Lond. *pix sicca seu navalis* Pharm. Edinb. *pix sicca, palimpissa dioscoridi* C B. This is less pungent and less bitter than the liquid tar, and is used only in some external applications, as a warm adhesive resinous substance. Neumann observes, that when melted with oils, resins, and fats, into ointments and plasters, the pitch is greatly disposed to separate and precipitate.

P L A N T A G O.

PLANTANE: a small perennial herb, common in fields and by road sides; with the leaves lying on the ground; and naked unbranched stalks, bearing on the top a spike of small imperfect four-leaved flowers, followed by little capsules which, opening horizontally, shed numerous crooked seeds.

1. PLANTAGO LATIFOLIA Pharm. Edinb. *Plantago latifolia sinuata* C. B. *Plantago septinervia*. Common greater plantane: with oval leaves, having seven ribs, prominent on the lower side, running from end to end; and long slender spikes.

2. PLANTAGO MINOR seu quinquenervia: *Plantago major angustifolia* C. B. *Plantago lanceolata* J. B. Narrow-leaved plantane or ribwort: with oblong, five-ribbed leaves; and short thick spikes.

THE leaves and seeds of plantane, recommended as vulneraries, in phthysical complaints, spittings of blood, alvine fluxes, &c. appear to be

* *Extractum
plantaginis
Ph. Edinb.*

be of the milder kind of restringents or corroborants. The leaves, of no remarkable smell, are in taste slightly acerb: their expressed juice, depurated by settling and colature, or clarified with whites of eggs, and inspissated to the consistence of honey *, discovers a considerable saline austerity. The two sorts are not sensibly different in quality from one another, though the first has been generally directed for medicinal use in preference to the other. The leaves are, in some places, the usual application made by the common people to slight wounds.

P L U M B U M.

† *Plumbum
ustum P. E.*

‡ *Minium
Ph. L. & Ed.*

§ *Lithargyrus
Ph. L. & Ed.*

P L U M B U M Pharm. Lond. Plumbum seu saturnus Pharm. Edinb. LEAD: a pale, livid, soft, very flexible metal; above eleven times specifically heavier than water; fusible in a small heat, somewhat less than that in which expressed oils begin to boil. Continued in fusion it contracts a various-coloured pellicle on the surface, and if kept stirring, so as that fresh surfaces may be exposed to the air, it changes by degrees into a powdery dusky-coloured calx †: this powder, calcined for some time in a stronger fire, in such a manner that the flame may reverberate all over it, becomes first yellow, and afterwards of a deep red colour ‡: all these calces, if the fire be hastily raised to a considerable degree, melt into the appearance of oil, and on cooling form a soft flaky pulverable substance called litharge §, of a pale yellowish or reddish colour, according as the lead has been less or more calcined: if the calces be urged with a pretty strong fire, they run into a yellowish glass, which, while in fusion, powerfully dissolves most kinds of earthy bodies, and corrodes the common crucibles till it has saturated itself with their earth.

The ores of lead, in colour commonly resembling lead itself and of a cubical or parallelopipedal structure, are plentiful in England and other parts of the world. The metal, extracted from the ore by fusion, contains frequently a portion of silver, and sometimes of gold: on keeping the compound melted in a due degree of heat, the lead calcines and turns to litharge, which is raked or blown off till the noble metals remain pure; all the other common metallic bodies being scorified and carried off by the lead. From the works, wherein silver is thus extracted from lead, in the large way the shops are supplied with litharge; which, when pale coloured, is called litharge of silver; when high coloured, litharge of gold. The latter is to be

be preferred, not as containing any of the metal by whose name it is distinguished, but as being more thoroughly calcined than the pale sort: the pale may be freed from the uncalcined lead it holds, by melting it; the uncalcined part falling to the bottom during the fusion.

The nitrous acid, diluted with about an equal quantity of water, dissolves lead pretty readily into a gold-coloured liquor: by the vitriolic and marine acids it is very difficultly acted on; and when previously dissolved in the nitrous, it is by either of these precipitated. Vegetable acids, digested on lead in substance, dissolve it exceeding sparingly: by certain managements they may be made to act more vigorously, and to satiate themselves with the metal.

Thin plates of lead, suspended over vinegar in a proper vessel, and set to digest in a gentle heat, as that of horseradish, that the acid vapour may rise and circulate round the plates, are found, in about twenty days, covered with a white powdery or flaky matter: this being scraped off, and the process repeated, the whole of the metal is thus corroded by degrees into cerusse or white lead *. This commodity, the preparation of which makes a considerable trade, is frequently adulterated with a mixture of whiting: the entire flaky masses, called flake lead, should be chosen, as not being liable to abuse. The adulteration may be discovered by means of vinegar, which will effervesce with and dissolve the whiting or calcareous earth: the liquor being then poured off clear, or filtered, the addition of a little spirit of salt will precipitate such part of the lead as the vinegar may have taken up; after which the calcareous earth will manifest itself on adding a little vitriolic acid; see *selenites*.

* Cerussa
Ph. L. & Ed.

The calces of lead are much easier of solution in vegetable acids than lead in its metallic form. On digesting four ounces of litharge about three days in a sand heat with a pint of strong vinegar, and now and then shaking the vessel; the liquor, filtered †, is found to have received a strong impregnation from the litharge, and to have dissolved about one tenth of it, whereas, of the same quantity of lead in substance, scarcely one hundredth part would be dissolved. Lead even in its vitreous state, or in the glazing of the common earthen-ware vessels, is considerably acted on by vegetable acids; which, by being boiled in those vessels, receive from them the peculiar taste, and pernicious qualities of saturnine solutions.

† Acetum
lithargyrites
Ph. Ed.

But of all the saturnine calces, the cerusse, on account of the corrosion it has previously undergone from the steam of vinegar, is the

most easily dissoluble in fresh vinegar, and hence is made choice of where a saturated solution is required. The solution made in vinegar, inspissated to the consistence of honey and set in the cold, shoots by proper management into crystals, called, from their taste, *sugar of lead* *. All the solutions, and soluble preparations of this metal, have a remarkably sweet taste, mixed with a considerable austerity.

* Saccharum
saturni
Ph. L. & Ed.

** Tinct. sa-
turnina P. L.
† Tinct. an-
tiphthifica
Pharm. Edinb.

LEAD in its metallic form, or when calcined by fire, does not appear to have any medicinal operation: dissolved or rendered soluble by acids, it is one of the most powerful styptics, but at the same time, for internal uses, one of the most dangerous. A few grains of the sugar have been ventured on for checking obstinate hemorrhagies and other profuse evacuations: a tincture drawn with rectified spirit, by maceration without heat, from sugar of lead and green vitriol, in the proportion of two ounces of each of the salts reduced separately into powder **, or three ounces of the sugar and two of the vitriol †, to a quart of spirit, has been given from fifteen to thirty drops, for restraining the colliquative sweats attending phthises and hectic fevers. This practice has in some instances been successful, but the hazard is very great: all the saturnine preparations that have any activity are in a peculiar manner injurious to the nervous system, and ought never to be ventured on but in desperate cases as a last resource. Obstinate constipations, violent colics, pains and contractions of the limbs, tremors and resolutions of the nerves, and slow wasting fevers, are the general consequences of saturnines taken in any considerable quantities internally, and of the fumes to which the workmen are exposed in the fusion of the metal in the way of business (a).

† Empl. com-
mune P. L.
‡ Pharm. Ed.
Diachylon

§ Emp. eminio
Pharm. Lond.

Externally, this metal and its preparations are of sufficient safety and of great utility. The plaster, in general use for slight cutaneous injuries, and which makes the basis of several other plasters, is a solution of litharge in oil olive, in the proportion of five pounds of the litharge, subtilely powdered, to eight ‡ or ten || pints of the oil. The union is effected by boiling them together over a gentle fire, with the addition of about a quart of water to prevent their burning, and keeping them continually stirring, till they incorporate and acquire a due consistence: if all the water should be consumed before this happens, some more water, previously made hot, is added. A red plaster is prepared in the same manner with minium instead of litharge §, but

as

(a) Vide Hoffmann, *Philosophia corp. human. morboſi*, P. II. cap. viii. § 20 & seq. Hundertmark, *Acta acad. cæsareæ nat. curios.* vol. vii. Append. p. 96.

as it does not stick so well as the other, it is more rarely used: it is likewise more difficult of preparation, the compound being very apt, though a considerable quantity of water be used, to burn and grow black in the boiling.

The cerusse and sugar, particularly the latter, are cooling, drying, and astringent: the sugar is used in collyria for inflammations and defluxions of the eyes, and in injections for restraining simple gonorrhœas; and both preparations in unguents and liniments, against cutaneous heats and excoriations, slight serpiginous eruptions, and for anointing the lips of wounds or ulcers that itch much or tend to inflammation. Compositions for these purposes are made in the shops, by melting nine ounces of white wax in three pints of oil olive, and mixing in a pound of cerusse *: by grinding two ounces of litharge, and adding, alternately and by little and little, two ounces of vinegar and six of oil †; or by boiling and stirring, over a gentle fire, four ounces of the common plaster, with one of vinegar, and two of oil where a thick unguent is required ‡, or four of oil for a softer liniment ||: this last is a less troublesome method of uniting the litharge with the oil and vinegar, than trituration; and the composition proves likewise more smooth and uniform, and less liable to grow hard in keeping. But the most elegant and effectual of all the saturnine unguents are those made with the sugar; in the proportion of half an ounce § or an ounce ** to a pint of oil and three ounces of white wax.

* Ung. album
Pharm. Ed.

† Ung. nutr.
Pharm. Ed.

‡ Ung. tri-
pharmacum
Pharm. Lond.

|| Lin. triphar-
macum. P. L.

Ung. saturnin.
§ Ph. Lond.
** Ph. Ed.

P O L I U M.

P O L I U M Pharm. Lond. Polium montanum Pharm. Edinb.

POLEY-MOUNTAIN: a small shrubby plant, with square stalks, oblong woolly leaves set in pairs; and labiated flowers wanting the upper lip and having the lower divided into five segments.

1. *Polium maritimum erectum monspeliacum C. B.* Poley mountain of Montpellier; with the leaves indented towards the end and joined to the stalk without pedicles, the flowers white and set in roundish spikes on the tops of the branches.

2. *Polium angustifolium creticum C. B. Teucrium frutescens, stachados arabicæ folio & facie Tourn.* Poley mountain of Candy; with the leaves not indented and set on short pedicles, the flowers standing in loose clusters, each on a separate foot-stalk.

M A T E R I A M E D I C A.

SEVERAL other species, or varieties, of *polium*, erect and procumbent, with white, yellow, and purplish flowers, have been received in the shops. The second above described has been commonly understood as the true officinal sort, and procured dry from the island Candy, of which it is a native: the first, which better bears the winters of our own climate, appears to be of the same quality; and hence the college allow either sort to be taken indifferently.

THE leaves and tops of poley-mountain have a moderately strong aromatic smell, and a disagreeable bitter taste: distilled with water, they yield a small quantity of a yellowish essential oil, of a pungent taste, in smell less agreeable than the herb itself; the remaining decoction, inspissated, leaves a strongly bitter extract. They stand recommended as corroborants, aperients, and antispasmodics; but are at present scarcely otherwise made use of than as an ingredient in mithridate and theriaca.

P O L Y G A L A.

MILK WORT: a small perennial plant; with the leaves alternate, uncut, and those on the upper parts of the stalks larger than on the lower; the flowers irregular, tubulous, tripetalous, labiated, set in loose spikes on the tops; the cup composed of five leaves, the two larger of which continue after the flower has fallen, and embrace, like wings, a flat bicellular seed-vessel.

I. SENEKA *Pharm. Edinb.* *Polygala floribus imberbibus spicatis, caule erecto herbaceo simplicissimo, foliis lato lanceolatis Linn. spec. plant.* Seneka or Senegaw milkwort, rattlesnake-rooted milkwort: with oblong, somewhat oval, pointed leaves; upright unbranched stalks; white flowers; and a variously bent and divaricated jointed root, about the thickness of the little finger, with a membranous margin running its whole length on each side, externally of a yellowish or pale brownish colour, internally white. It is a native of Virginia, Pennsylvania, and Maryland; and cultivated in some of our gardens.

THE root of this plant is said to be the specific of the Senegaw Indians against the poison of the bite of the rattlesnake; and to be effectual, when used early, even in the middle of the summer heats, when the poison is in its highest vigour, and when all their other antidotes fail. The powder or a decoction of the root is taken internally; and

and either the powder, or cataplasms made with it, applied to the wound.

Dr. Tennent, observing that this poison produces symptoms resembling those of pleurifies and peripneumonies; (a difficulty of breathing, cough, spitting of coagulated blood, and a strong quick pulse); conjectured that it might be serviceable in those distempers also: and from the trials made by the gentlemen of the French academy, as well as those mentioned by him, its virtues appear to be great. It made the fizy blood fluid, procured a plentiful spitting, increased perspiration and urine, and sometimes purged or vomited. The usual dose was thirty or thirty-five grains of the powder; or three spoonfuls of a decoction prepared by boiling three ounces of the root in a quart of water till near half the liquor was consumed.

The feneka root has been tried likewise in hydropic cases, and found in some instances to procure a copious evacuation by stool, urine, and perspiration, after the common purgatives and diuretics had failed. Mons. Bouvart observes, that though dropsies were thus removed by the feneka, the cure did not seem complete, a swelling and hardness of the spleen remaining, which sometimes occasioned a fresh extravasation: that the medicine sometimes acts by liquefying the blood and juices, without producing a due discharge; and that in these cases it does harm unless assisted by proper additions, but that so long as it proves cathartic, nothing is to be feared from it.

It is said to have been found serviceable also in the rheumatism and gout. The taste of this root is bitterish and somewhat aromatic, followed by a considerable pungency. Its virtue is extracted both by water and rectified spirit, though the powder in substance is supposed to be more effectual than either the decoction or tincture.

2. POLYGALA: *polygala vulgaris* C. B. *Flos ambarvalis*. Common milkwort: with the stalks procumbent; the lower leaves roundish, the upper oblong, narrow, and pointed; the flowers blue, purplish or red, sometimes white, with a kind of fringed appendix on the lower lip; the roots slender and hard. It grows wild in dry pasture grounds.

THE roots of this species are nearly similar in taste to those of the preceeding, but weaker: they have been found likewise to produce the same effects in pleurifies, in a lower degree. The leaves of the plant are very bitter: Gesner, (who from this quality gives it the name of *amarella*),

amarella), relates, that an infusion of a handful of them in wine is a safe and gentle purgative.

P O L Y P O D I U M.

POLYPODIUM Pharm. Edinb. Polypodium vulgare C.B.

POLYPODY: a plant with long leaves issuing from the root, divided on both sides, down to the rib, into a number of oblong segments broadest at the base: it has no stalk, or manifest flower; the seeds are a fine dust, lying on the backs of the leaves, in roundish specks, which are disposed in rows parallel to the rib: the roots are long and slender, of a reddish brown colour on the outside, greenish within, full of small tubercles, which are resembled to the feet of an insect, whence the name of the plant. It grows in the clefts of old walls, rocks, and decayed trees: that produced on the oak has been generally accounted the best, though not sensibly different from the others. It is found green at all seasons of the year.

THE leaves of polypody have a weak ungrateful smell, and a nauseous sweet taste, leaving a kind of roughness and slight acrimony in the mouth. They give out their smell and taste, together with a yellow colour, both to water and rectified spirit: the spirituous tincture is sweeter than the watery, but in inspissation its sweetness is in great part destroyed or covered by the other matter; the spirituous extract, as Cartheuser observes, being to the taste only subastringent and subacid with very little sweetness, while the watery extract seems to retain the full sweetness of the polypody. This root is supposed to be aperient, resolvent, and expectorant: it was formerly ranked among the purgatives, but operates so weakly, a decoction of an ounce or two scarcely moving the belly, that it has long been expunged from that class: the present practice pays very little regard to it in any intention.

P O P U L U S.

POPULUS NIGRA Pharm. Edinb. & C.B. Populus nigra sive aigeiros J.B. **BLACK POPLAR**: a large tree; with dark green, somewhat rhomboidal acuminate leaves; producing imperfect flowers, in catkins: in some of the individuals, called male, the flowers are barren; in others, called female, they are followed by

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membranous pods, containing a number of seeds winged with down. It is indigenous in watery places, and quick of growth.

THE young buds or rudiments of the leaves, which appear in the beginning of the spring, were formerly employed in an officinal ointment, which received its name from them. At present, they are almost entirely disregarded; though they should seem, from their sensible qualities, to be applicable to purposes of some importance. They abound with a yellow, unctuous, odorous, balsamic juice; which they readily impart, by maceration or digestion, to rectified spirit. The tincture, inspissated, yields a fragrant resin, superior to many of those brought from abroad, and approaching to the nature of storax.

P R U N E L L A.

P R U N E L L A five *brunella* Pharm. Edinb. *Brunella major folio non dissecto* C. B. *Consolida minor* & *symphytum minus quibusdam*.

SELF-HEAL: a small plant; with square stalks; oval uncut leaves set in pairs on pedicles; and short thick spikes of purplish labiated flowers. It is perennial, grows wild in pasture grounds, and flowers in June and July.

THIS herb is recommended as a mild restraining and vulnerary, in spittings of blood, and other hemorrhagies and fluxes; and in gargisms against aphthæ and inflammations of the fauces. Its virtues do not appear to be very great: to the taste it discovers a very flight austerity or bitterishness; which is more sensible in the flowery tops than in the leaves, though the latter are generally directed for medicinal use.

P R U N U S.

P R U N U S: a tree with pentapetalous white flowers; each of which is succeeded by a roundish or oval fruit, standing on a long pedicle, composed of a flesh pulp including a flat stone pointed at both ends.

I. *P R U N U S HORTENSIS*. Garden plum tree; without prickles; bearing a sweet fruit. Three sorts of this fruit are ranked among the articles of the materia medica: they are all met with in our gardens, but the shops are supplied with them, moderately dried, from abroad.

I. PRUNA

BRIGNOLENSIA

BRIGNOLENSIA *Pharm. Edinb.* *Pruna ex flavo rufescentia mixti saporis gratissima C. B.* The Brignole plum or prunelloe, brought from Brignole in Provence, of a reddish yellow colour, and a very grateful dulco-acid taste. 2. PRUNA GALLICA *Pharm. Lond. & Edinb.* *Pruna parva dulcia atro-cærulea C. B.* The common or French prunes, called by our gardeners the little black damask plum. 3. PRUNA DAMASCENA: *pruna magna dulcia atro-cærulea C. B.* Damsons, the larger damask violet plum of Tours: this is seldom kept in the shops, and has been generally supplied by the common prune.

All these fruits possess the same general qualities with the other *fructus horæi*. The prunelloes, in which the sweetness has a greater mixture of acidity than in the other sorts, are used as mild refrigerants in fevers and other hot indispositions, and are sometimes kept in the mouth for alleviating thirst in hydropic cases. The French prunes and damsons are the most emollient, lubricating and laxative: they are taken by themselves for gently loosening the belly in costive habits and where there is a tendency to inflammation: decoctions of them afford an useful basis for laxative or purgative mixtures, and the pulp in substance for electaries.

2. PRUNUS SILVESTRIS *Pharm Lond. & Edinb. & C. B.* *Acacia Germanorum.* Black thorn or sloe: a prickly bush, common in hedges, producing austere fruit, somewhat smaller than an ordinary cherry.

THE fruit of the sloe bush is so harsh and austere, as not to be eatable till thoroughly mellowed by frosts. The juice expressed from it while unripe, or before it has been thus mellowed, inspissated by a gentle heat to dryness, is called German acacia*, and has been usually sold in the shops for the Egyptian juice of that name; from which it differs in being harder, heavier, darker coloured, of a sharper or tarter taste, and more remarkably in this, that it gives out its astringency in good measure to rectified spirit as well as to water, whereas that of the Egyptian acacia is not at all dissoluble in spirit. A conserve of this fruit is likewise prepared in the shops, by mixing the pulp with thrice its weight of double refined sugar; the sloes being previously steeped in water, over the fire, with care that they do not burst, till they are sufficiently softened to admit of the pulp being pressed out through a sieve †. In some places, the unripe sloes are dried in an oven, and

* Succus prunorum sylvestrium seu acacia germanica *Pharm. Ed.*

† Conserv. prunor. sylvestrium *Pb. L.*

then fermented with wines or malt liquors, for a restraining diet-drink in alvine and uterine laxities.

The bark, both of the branches and of the roots, is said to have been given with success in intermitting fevers, and by some stands recommended as equal to the Peruvian bark. It is apparently a strong styptic; and its styptic matter is of that kind which is not easily extracted by watery menstua.

The flowers, in smell very agreeable, and in taste bitterish, appear to have a laxative virtue, like those of the peach tree or the damask rose. They impregnate water, by distillation, strongly with their fragrance; and give out their active matter, by infusion, both to water and spirit. The watery infusion, sweetened with sugar, or made into a syrup, is said to be a very useful purgative for children.

P S Y L L I U M.

P S Y L L I U M Pharm. Paris. Pulicaris herba Lugdun. Psyllium majus erectum C. B. FLEAWORT: an herb of the plantane kind, differing from the common plantanes in being annual, and having its stalks branched, with leaves upon them, which are long, slender, and somewhat hairy. It grows wild in the warmer parts of Europe, and is sometimes raised in our gardens. The seeds have been usually brought from the south of France: they are small, smooth, slippery, of a shining brown colour, of an oblong flattish figure supposed to resemble that of a flea, whence the name of the plant.

THE seeds of fleawort have a nauseous mucilaginous taste, and no remarkable smell: a dram renders near a pint of water slimy and yellowish: the decoction, inspissated, leaves a strong dark brown mucilage, which impresses on the palate an unpleasant, weak, but penetrating acrimony. This mucilage has been employed chiefly in emollient glysters, in gargarisms for hoarseness and asperity of the fauces, and in external applications for chaps of the lips and inflammations of the eyes. Prosper Alpinus relates, that among the Egyptians, the mucilage or an infusion of the seeds is given internally, in ardent fevers; and that it generally either loosens the belly or promotes sweat. The particular virtue of these seeds, or whatever virtue they may have distinct from that of mucilaginous substances in general, appears to reside in the acrid matter, which may be separated from the mucilaginous by rectified spirit: the seeds, digested in rectified spirit,

give out their acrimony and ill taste, and yield afterwards to water an almost insipid mucilage.

P T A R M I C A.

P T A R M I C A, *Pseudopyrethrum*, *Pyrethrum silvestre*, *Draco silvestris*, *Tarchon silvestris*, *Sternutamentoria*: *Dracunculus pratensis serrato folio* C. B.

SNEEZEWORD OR BASTARD PELLITORY: a plant with long narrow leaves finely ferrated about the edges, and radiated discous white flowers set in form of umbels on the tops of the branches. It is perennial, grows wild on heaths and in moist shady grounds, and is found in flower from June to the end of summer.

THE roots of this plant have a hot biting taste, approaching to that of pyrethrum, with which they nearly agree also in their pharmaceutical properties, and to which they have been sometimes substituted in the shops. They are by some recommended internally as a warm stimulant and attenuant; but their principal use is as a masticatory and sternutatory.

P U L E G I U M.

PENNYROYAL: a plant of the mint kind; differing from the mints strictly so called, in the flowers being disposed, not in spikes on the tops, but in thick clusters, at distances, round the joints of the stalks; and the upper segment of the flower not being nipped at the extremity.

1. PULEGIUM *Pharm. Lond.* *Pulegium vulgare Pharm. Edinb.* *Pulegium latifolium C. B.* *Mentha palustris sive pulegium Pharm. Paris.* *Pulegium regium Ger. emac.* Common pennyroyal: with somewhat oval obtuse leaves, and trailing stalks, striking root at the joints. It grows wild on moist commons and in watery places, and flowers in June.

2. PULEGIUM ERECTUM: *Pulegium erectum officinarum Dale:* *Pulegium mas Ger. emac.* Upright pennyroyal; with the stamina standing out from the flowers; said to be a native of Spain, common in our gardens, and usually substituted in our markets to the foregoing species.

3. PULEGIUM CERVINUM: *Pulegium angustifolium C. B.* *Mentha aquatica saturiæ folio Tourn.* Harts pennyroyal: with small

small oblong narrow leaves; said to grow wild about Montpelier.

ALL the pennyroyals are warm pungent herbs, somewhat similar to mint, but more acrid and less agreeable both in smell and taste, less proper in common nausea and weakness of the stomach, more efficacious as warm carminatives and deobstruents in hysteric cases and disorders of the breast: the last species is the strongest, though least ungrateful, of the three. Their active principle is an essential oil; of a more volatile nature than that of mint, coming over hastily with water at the beginning of the distillation, and rising also in great part with highly rectified spirit; in taste very pungent, and of a strong smell; when newly drawn, of a yellowish colour with a cast of green; by age turning brownish. The oil, and a simple and spirituous water strongly impregnated with it, by drawing off a gallon of water or proof spirit from a pound and a half of the dry leaves, are kept in the shops.

P U L M O N A R I A.

PULMONARIA MACULOSA Pharm. Edinb. *Symphytum maculosum* sive *pulmonaria latifolia* C. B. SPOTTED LUNGWORT, JERUSALEM COWSLIPS, JERUSALEM SAGE: a hairy scabrous plant, with the leaves of a dark brownish green colour on the upper side and spotted for the most part with white, underneath of a paler green, the lower oval and set on broad pedicles, those on the stalks narrower, long-pointed, set alternately, without pedicles: the flowers are monopetalous, cut into five sections, of a purple or blue colour and sometimes white, followed each by four seeds inclosed in the cup. It is perennial, grows wild in several parts of Europe, and flowers in our gardens in April and May.

THE leaves of pulmonaria, recommended in hemoptoes, tickling coughs, asperities of the fauces, &c. appear to be of little medicinal virtue. The dried leaves have hardly any smell; and their taste is just perceptibly mucilaginous, sweetish, and roughish. They seem to be nearly of the same nature with the *adiantum* and *trichomanes*.

P Y R E T H R U M.

PYRETHRUM Pharm. Lond. & Edinb. *Pyrethrum flore bellidis* C. B. *Chamæmelum specioso flore, radice longa fervida* Shaw afr.

M A T E R I A M E D I C A.

Dentaria, herba salivaris, & pes alexandrinus quibusdam. PELLITORY OF SPAIN: a trailing perennial plant; with finely divided leaves, somewhat like those of camomile or fennel; and naked thick stalks, bearing each a large flower, which consists of a yellow disk surrounded with petals of a pure white colour on the upper side and a fine purple underneath: the root, which sinks deep in the ground like a carrot, is of a brownish colour on the outside and whitish within. It is a native of the warmer climates, but bears the colds of our own, and often produces flowers in succession from January to May: the roots also, as Parkinson observes, grow larger with us, than those which the shops are supplied with from abroad.

PELLITORY root has a very hot pungent taste, without any sensible smell. Its pungency resides in a resinous matter, of the more fixt kind; being extracted completely by rectified spirit and only in small part by water; and not being carried off, in evaporation or distillation, by either menstruum. The spirituous extract is extremely fiery, but in small quantity, scarcely amounting to one twentieth of the weight of the root. The watery infusion is nauseous, but scarcely discovers any acrimony till concentrated by inspissation; when reduced to the consistence of an extract, it proves considerably pungent: the quantity of this extract is commonly five or six times as large as that of the spirituous. The root remaining, after the action of water, yields still with rectified spirit a very fiery extract; whereas that, which has been digested in spirit, yields with water only an insipid mucilaginous substance.

The principal use of pyrethrum, in the present practice, is as a masticatory, for stimulating the salival glands, &c. and evacuating viscid humours from the head and parts adjacent: by this means it frequently relieves toothachs, some kinds of headachs, lethargic complaints, and paralyzes of the tongue. It has sometimes likewise been given internally, from a few grains to a scruple, as a hot stimulant and attenuant, in paralytic and rheumatic disorders.

P Y R I T E S.

MARCASSITA Pharm. Paris. PYRITES or MARCASITE: a hard fossil; striking fire with steel, copiously, and in large sparks; becoming vitriolic, either by simple exposure to the air, or by calcination and subsequent exposure.

§

THIS

THIS mineral varies extremely in its appearances. It is found of a bright brass yellow, of a greenish, of a grey or whitish colour, and of different intermediate or mixt shades; in masses, rarely of any great size, globular, oblong and flattish, cubical, octoedral, dodecaedral; sometimes covered with a coat or crust, but oftener bare; internally sometimes striated, and sometimes of an even and simple structure (a). It is met with in different places of this kingdom, and in most parts of the world; on the surface of the earth, on the sea shores, in clay pits embedded in earthy and stony bodies of various kinds.

The pyritæ consist, in general, of sulphur, iron, and unmetallic earth: in some, a little copper is joined to the iron; and in some, copper is the prevailing metal. In some, particularly the yellow kind, the quantity of sulphur is large: in others, particularly the white, both the sulphur and metal are in small proportion.

If artificial mixtures of sulphur with iron or copper be gently calcined, the inflammable principle of the sulphur exhales, and its acid remains united with the metal, forming therewith a saline vitriolic compound: a mixture of iron filings and sulphur, moistened with water, suffers a like change without external heat, and if the quantity is large, bursts spontaneously into fire---A resolution of the same kind happens in the natural pyritæ on exposing them to the air and rain; provided, where they are very sulphureous, a part of the sulphur be previously dissipated by calcination. On this exposure, they all become powdery and acquire a vitriolic taste, the ferrugineous much more easily than those which have any admixture of copper: some shoot out efflorescences of vitriol upon the surface: from others, the saline matter, washed off by rain, is found to consist chiefly of the sulphureous or vitriolic acid (see *vitriolum*). If the pyritæ, even such as have the least sulphureous and metallic impregnation, as those from which the English vitriol is made, be laid in large heaps, they grow hot, and take fire, and emit, during the burning, strong diffusive sulphureous vapours (b).

The pyritæ, in substance, are never used medicinally; but in their products they are very important. It is from these, that common sulphur is extracted, in Sweden and Saxony; that the native vitriols are produced in caverns of the earth or on its surface; that the greatest quantities of artificial vitriol are prepared; and that the chalybeate mineral

(a) See Henckel's *Pyritologia oder kiefs-historie*.

(b) Dr. Slare, *Philosophical transactions*, numb. 213.

mineral waters are supposed to receive their impregnation: see the respective articles.

Q U E R C U S.

QUERCUS Pharm. Edinb. Quercus cum longis pediculis C. B. OAK: a large tree, with oblong leaves, widening from the bottom to the extremity, and sinuated or bluntly indented about the edges: the fruit is an acorn, or kernel with a coriaceous covering, inclosed at bottom in a scaly cup. It is a common forest tree in most parts of Europe.

THE bark of the oak is a strong astringent, accompanied with a moderate bitterness, but no remarkable smell or particular flavour: with solution of chalybeate vitriol it strikes an inky blackness. It is said to have been employed with success, not only for restraining hemorrhagies and other immoderate evacuations, but likewise in intermitting fevers and in gleetings gangrenous wounds and ulcers; in which cases, an extract made from it is said by some to be equal to that of the Peruvian bark. It gives out its virtue both to water and rectified spirit.

Q U E R C U S M A R I N A.

QUERCUS MARINA sive fucus vesiculosus: Fucus maritimus sive quercus maritima vesiculas habens C. B. SEA WRACK or SEA OAK: a soft, very slippery, marine plant; common upon rocks that are left dry at the ebb tide; with the leaves somewhat resembling in shape those of the oak tree; the stalks running along the middle of the leaves, and terminated by warty bladders containing either air or a lubricous fluid. The vesicles begin in March to fill with a thin juice; and about the end of July they burst, and discharge a matter as thick as honey.

DR. RUSSEL relates, that he found this plant an useful assistant to sea water in the cure of disorders of the glands: that he gave it in powder to the quantity of a dram, and that in large doses it nauseated the stomach: that by burning in the open air it was reduced into a black saline powder*; which seemed, as an internal medicine, greatly to excel the officinal burnt sponge; which was used with benefit, as a dentifrice, for correcting laxities of the gums; and which shewed a notable degree of detergent virtue by its effect in cleaning the teeth: that the juice of the vesicles, after standing to putrefy, yielded,

* Æthiops
vegetabilis.
D. Russel.

yielded, on evaporation, an acrid pungent salt, amounting to above a scruple from two spoonfuls: that the putrefied juice, applied to the skin, sinks in immediately, excites a slight sense of pungency, and deterges like a solution of soap: that one of the best applications for discussing hardness, particularly in the decline of glandular swellings, is a mixture of two pounds of the juicy vesicles, gathered in July, with a quart of sea water, kept in a glass vessel for ten or fifteen days, till the liquor comes near to the consistence of very thin honey: the parts affected are to be rubbed with the strained liquor twice or thrice a day, and afterwards washed clean with sea water.

R A N U N C U L U S.

C R O W F O O T: a plant with pentapetalous flowers set in five-leaved cups; followed each by a round cluster of naked seeds. It is perennial.

1. RANUNCULUS, *ranunculus bulbosus*: *Ranunculus pratensis radice verticilli modo rotunda C. B.* Bulbous crowfoot, butter flower, gold cup: with a round tuberous root about the size of an olive; the leaves divided commonly into three segments and these further subdivided; the stalks erect: the flowers of a bright glossy yellow, and their cups turned downwards. It is common in pasture grounds, and flowers in May.

2. FLAMMULA: *Ranunculus longifolius palustris minor C.B.* Smaller water crowfoot or spearwort: with fibrous roots, long narrow leaves acuminate at both ends, and leaning or procumbent stalks. It grows in watery places or moist meadows, and flowers in June.

THE roots and leaves of these plants are of no considerable smell, but in taste highly acrid and fiery. Taken internally, they appear to be deleterious, even when so far freed from their caustic matter, by boiling in water, as to discover no ill quality to the palate. The effluvia likewise even of the less acrid specieses or varieties cultivated in gardens, when freely inspired, have occasioned headaches, anxieties, vomitings, and spasmodic symptoms. The leaves and roots, applied externally, inflame and exulcerate or vesicate the part, and are liable to affect also the adjacent parts to a considerable extent (a): they have sometimes, particularly among empyrics and the common people, supplied

(a) Willis, *Pharmaceutice rationalis*, P. II. sect. iii. cap. 3.

plied the place of the far safer and not less effectual vesicatory, cantharides, for procuring an ulcer and discharge of serum, in sciaticas and some fixt pains of the head. Their pungency is diminished by drying, and by long keeping seems to be dissipated or destroyed.

R A P H A N U S.

RAPHANUS RUSTICANUS Pharm. Lond. C. B. *Raphanus rusticanus seu armoracia*, Pharm. Edinb. *Cochlearia folio cubitali* Tourn.

HORSERADISH: a plant resembling scurvygrass in the flowers and seeds, but differing in the leaves being very large and long, and indented about the edges. It is sometimes found wild about the sides of ditches and rivulets, but for medicinal and culinary uses is cultivated in gardens. It is perennial, flowers in June, rarely perfects its seeds, and is propagated from transverse cuttings of the roots.

HORSERADISH root affects the organs both of taste and smell with a quick penetrating pungency: it nevertheless contains in certain vessels a sweet juice, which sometimes exudes in little drops upon the surface. Its pungent matter is of a very volatile kind; being totally dissipated in drying, and carried off in evaporation or distillation both by water and rectified spirit: as the pungency exhales, the sweet matter of the root becomes more sensible, though this also is in great measure dissipated or destroyed. It impregnates both water and spirit, by infusion or by distillation, very richly with its active matter: in distillation with water it yields a small quantity of essential oil exceedingly penetrating and pungent. This root appears therefore to agree with scurvygrass and cresses, and to differ from mustard seed to which it is by some resembled, in the volatility of its pungent matter, and its solubility in spirit of wine.

Horseradish is a moderately stimulating, aperient, and antiseptic medicine: it sensibly promotes perspiration, urine, and the expectoration of viscid phlegm, and excites appetite when the stomach is weakened or relaxed, without being so liable to produce immoderate heat, or inflammatory symptoms, as the stimulants of the aromatic kind. It is principally used in paralytic and rheumatic complaints, in scurvy and scorbutic impurities of the humours, in cachectic disorders, and in dropsies, particularly in those which follow intermitting fevers. Taken in considerable quantities, it provokes vomiting.

R A P U M.

RAPUM Pharm. Edinb. Rapa sativa rotunda C. B.
 TURNEP: a plant with a round root, jagged leaves, rude to the touch, tetrapetalous flowers, commonly yellow, and small round smooth reddish or blackish seeds lodged in long pods. The garden turnep is supposed to be a variety produced by culture from the smaller sort which grows wild in sandy grounds in some parts of England. It is biennial.

TURNEPS are accounted a salubrious food; demulcent, detergent, somewhat laxative and diuretic; but liable in weak stomachs to produce flatulencies, and prove difficult of digestion: the liquor pressed out from them after boiling, is sometimes taken medicinally, in coughs and disorders of the breast. The seeds have been accounted alexipharmac or diaphoretic: they have no smell, but discover to the taste a mild acrimony, seemingly of the same nature with that of mustard seed, though far weaker.

R H A B A R B A R U M.

RHUBARB: a plant with large dock-like leaves, among which arises a single thick stalk bearing loose clusters of naked monopetalous bell-shaped white flowers, each of which contains nine stamina (whereof the docks strictly so called have but six), and is followed by a triangular seed surrounded about the edges with a leafy margin. It is perennial.

I. RHABARBARUM *Pharm. Lond. Rhabarbarum verum sive rheum, Pharm. Edinb. Lapathum orientale folio latissimo undulato & mucronato Mill. dict. Rheum foliis subvillosis, petiolis æqualibus Linn. spec.* Rhubarb: with the leaves somewhat heartshaped, acuminate, and slightly hairy, and the pedicles plano-convex. It is a native of China and Siberia, and has lately been raised in some of our gardens, where it is found to grow with vigour in the open ground.

Two sorts of rhubarb roots are met with in the shops. The first is imported from Turkey and Russia, in roundish pieces, freed from the bark, with a hole through the middle of each, externally of a yellow colour, internally variegated with lively reddish streaks. The other, which is less esteemed, comes immediately from the East Indies, in

longish pieces, harder, heavier, and more compact than the foregoing. The first sort, unless kept very dry, is apt to grow mouldy and worm eaten : the second is less subject to these inconveniencies. Some of the more industrious artists are said to fill up the worm holes with certain mixtures, and to colour the outside of the damaged pieces with powder of the finer sorts of rhubarb, and sometimes with cheaper materials. The marks of the goodness of rhubarb are, the liveliness of its colour when cut ; its being firm and solid, but not flinty or hard ; its being easily pulverable, and appearing when powdered of a fine bright yellow colour ; its imparting to the spittle, on being chewed, a deep saffron tinge, and not proving slimy or mucilaginous in the mouth. Its taste is subacid, bitterish, and somewhat styptic ; the smell, lightly aromatic.

Rhubarb is a mild cathartic, and commonly looked upon as one of the safest and most innocent of the substances of this class. Besides its purgative virtue, it has a mild astringent one, discoverable by the taste, and by its striking an inky blackness with chalybeate solutions : hence it is found to strengthen the tone of the stomach and intestines, to leave the belly costive, and to be one of the most useful purgatives in diarrhœas, dysenteries, and all disorders proceeding from a debility and laxity of the fibres : it is frequently indeed given with a view rather to this stomachic and corroborating virtue, than to its producing any considerable evacuation. It tinges the urine of a high yellow colour.

Rhubarb in substance purges more effectually than any preparation of it : the dose is from a scruple to a dram. By roasting it with a gentle heat, till it becomes easily friable *, its cathartic power is diminished, and its astringency supposed to be increased. In its habitude to menstrua, it differs remarkably from most of the other cathartic drugs, its purgative virtue being extracted far more perfectly by water than by rectified spirit : the root remaining after the action of water is almost, if not wholly, inactive ; whereas, after repeated digestion in spirit, it proves still very considerably purgative : the colour of both tinctures is a fine deep yellow, that of the spirituous palest ; when the rhubarb has given out to spirit all that this menstruum can extract, it still imparts a deep colour, as well as a purgative impregnation, to water. The watery infusion, in being inspissated by a gentle heat, has its virtue so much diminished, that a dram of the extract is said to have scarcely any greater effect than a scruple of the root in substance : the spirituous tincture loses less ; half a dram

* Rhabarb.
torrefactum
Ph. Lond.

of this extract proving moderately purgative, though scarcely more so than an equal quantity of the powder. The spirituous extract dissolves almost wholly in water; and hence the tincture does not, like the spirituous infusions of most other vegetables, turn milky on being mixed with aqueous liquors: of the watery extract, scarce above one fourth is dissolved by rectified spirit, and the part that does not dissolve proves more purgative than that which does.

Tinctures of this root are drawn in the shops with proof spirit and with mountain wine, in the proportion of an ounce of the rhubarb to a pint of the menstruum. These preparations, used chiefly as mildly laxative corroborants, in weakness of the stomach, indigestion, diarrhoeas, colicky and other like complaints, are commonly aromatized with a little cardamom seeds and saffron (*a*), as two drams of the former and one of the latter to the above quantity of the root *. For some purposes, a tincture is drawn from the rhubarb and cardamom seeds with proof spirit, and two ounces of white sugar candy dissolved in the strained liquor †. For others, instead of sweets and aromatics, gentian and snake root are joined, in the proportion of a dram and a half of the former and a dram of the latter, with the addition of a scruple of cochineal as a colouring ingredient ‡: this last tincture is, in many cases, an useful assistant to the Peruvian bark in the cure of intermittents.

* Tinct. rhubarb. vinosa & spiritiosa, P. L.

† Tinct. rhei dulcis Ph. Ed.

‡ Tinct. rhei amara Pharm. Ed.

The Turkey rhubarb is, among us, universally preferred to the East India sort, though this last appears to be for some purposes at least equal to the other. It is manifestly more astringent, but has somewhat less of an aromatic flavour. Tinctures made from both with equal quantities of rectified spirit, have nearly the same taste: on drawing off the menstrua, the extract left by the tincture of the East India rhubarb proves in taste considerably stronger than the other. Both sorts appear to be the produce of the same climate, and the roots of the same species of plant, taken up probably at a different season, or cured in a different manner. The rhubarb of our own growth, so far as I can learn, has not yet been tried.

2. RHAPONTICUM Pharm. Paris. *Rhabarbarum dioscoridis & antiquorum Tourn.* *Rhaponticum folio lapathi majoris glabro C. B.* *Rheum foliis glabris, petiolis subsulcatis Linn. spec.* Rhapontic: with

3 O 2

(a) Saffron does not appear to be a very proper ingredient in these preparations, as it renders the taste rather more unpleasant; nor indeed does rhubarb seem, for general use, to want any aromatic addition.

with smooth roundish leaves, and somewhat channelled pedicles. It grows wild on the mountain Rhodope in Thrace, from whence it was brought into Europe by Alpinus about the year 1610: it bears the hardest winters of this climate.

THE root of this plant, which appears to have been the true rhubarb of the ancients, is by some confounded with the modern rhubarb, though considerably different from that root in appearance as well as in quality. The rhapontic is of a dusky colour on the surface, and a loose spongy texture; more astringent than rhubarb, and less purgative: in this last intention two or three drams are required for a dose.

R I C I N U S.

R I C I N U S & *ricinoides*: large plants, with small flowers in clusters, and the fruit growing at a little distance from, or succeeding only a few of, the flowers: the fruit consists of three capsules, containing each a single seed, flattened on one side, generally about the size of a small bean, composed of a thin skin or shell including an oily kernel.

1. *PALMACHRISTI Pharm. Paris. Ricinus, cataputia major, cherva major, kiki, & granum regium quibusdam: Ricinus vulgaris C. B. Ricinus foliis peltatis serratis, petiolis glandiferis Linn. spec.* Palmachristi, Mexico seed: with the fruit triangular, the seed furnished with a little knob at one end, externally variegated with blackish and whitish streaks, resembling both in shape and colour the insect *ricinus* or tick.

2. *RICINOIDES, seu pineus purgans, vel pinbones indici Pharm. Paris. Carcas, nux barbadensis, & faba purgatrix quibusdam: Ricinus americanus major semine nigro C. B. Jatropha foliis cordatis angulatis Linn. spec.* Barbadoes nut: with an oval walnut-like fruit, and oblong black seeds.

3. *AVELLANA PURGATRIX C. B. Nuces purgantes Ger. Jatropha foliis multipartitis, stipulis setaceis multifidis Linn. spec.* Purging nut: with oval fruit, and roundish, somewhat triangular, pale brownish seeds.

4. *TIGLIUM, grana tiglia: Croton foliis ovatis glabris acuminatis serratis, caule arboreo Lin. spec. Pinus indica nucleo purgante, & lignum moluccense foliis malvæ, fructu avellânæ minore, cortice molliore & nigricante,*

nigricante, pavana incolis C. B. Grana tilia: with roundish fruit, and dark greyish seeds in shape nearly like those of the first species.

THE first of these plants is said to be found wild in some of the southern parts of Europe: it is biennial. The others are middling sized trees, natives of America and the East Indies, from whence the seeds are sometimes brought to us.

The two first of these seeds are sweetish, nauseous, and acrid: the third has scarcely any acrimony, and tastes nearly like almonds: the fourth is intensely hot and acrimonious. They are all strong evacuants, operating, in doses of a few grains, both upwards and downwards; the sweet species not excepted: The grana tilia are the most violent, too much so to be taken with any tolerable safety; and indeed they all appear too drastic to be ventured on. They yield upon expression a considerable quantity of oil, impregnated more or less with the taste and the purgative quality of the seeds: of the oil of the grana tilia, Geoffroy limits the dose to one grain: that of the Barbadoes nut is said to be taken in America in much larger quantities, and to purge without much inconvenience: they are all said also to act as purgatives, when applied externally to the umbilical region. The wood and leaves of the plants are likewise strong cathartics: Hermann relates that the wood of the tilia, called *panava* or *pavana*, operates violently, when fresh, in the dose of a scruple or half a dram: that when dried and long kept, it is given to the quantity of a whole dram as a purgative, and in smaller doses as a sudorific. Among us, all these substances are entire strangers to practice; and, so far as can be judged from the accounts given of them, they have little claim to be received.

R O S A.

ROSE: a prickly bush; with oval serrated leaves, set in pairs along a middle rib, which is terminated by an odd one; producing large elegant flowers, whose cup is divided into five long segments, with a knob at the bottom, which becomes an umbilicated soft fruit full of hairy seeds.

I. ROSA DAMASCENA *Pharm. Lond.* *Rosa damascena seu rosa pallida Pharm. Edinb.* *Rosa purpurea* C. B. The damask rose: with double flowers, of the fine pale red called from them rose-colour.

DAMASK

THE pleasant smell of damask roses is of a less perishable kind than that of many other odoriferous flowers, not being much diminished in drying, nor soon dissipated in keeping. They impart their odorous matter to watery liquors both by infusion and distillation: six pounds of the fresh roses impregnate, by distillation, a gallon * or more of water strongly with their fine flavour. On distilling large quantities, there separates from the watery fluid a small portion of a fragrant butyraceous oil, which liquefies by heat and appears yellow, but concretes in the cold into a white mass: an hundred pounds of the flowers, according to the experiments of Tachenius and Hoffmann, afford scarcely half an ounce of oil. The oil and water, used chiefly as perfumes and flavouring materials, are recommended by Hoffmann as excellent cordials, for raising the strength and spirits, and allaying pain. They appear to be of a very mild nature, and not liable to irritate or heat the constitution; even the essential oil discovering to the taste but little pungency.

* Aq. rosar.
damascen. P. L.
pallid. P. E.

† Syrup. rosar.
solutiv. P. L.
rosar. pallid.
Pb. Ed.

These flowers contain likewise a bitterish substance; which is extracted by water along with the odoriferous principle; which, after this last has been separated by distillation or evaporation, is found entire in the remaining decoction; and which appears to be of a gently purgative nature. The decoction, or a strong infusion of the flowers, made into a syrup † with a proper quantity of sugar, proves an useful laxative for children, in doses of a spoonful: of the extract obtained by inspissating the decoction, from a scruple to a dram is said to be sufficient for adults. The college of London directs the syrup to be made, by pressing out the liquor remaining after the distillation of six pounds of damask roses, and boiling it down to three pints; then, after it has settled for a night, adding five pounds of fine sugar, and boiling the mixture to the weight of seven pounds and a half: a spoonful of this syrup appears to be equivalent to about three drams of the fresh flowers. The solutive matter of the flowers is combined also in the same manner, for the purposes of glysters, with brown sugar and honey: towards the end of the boiling down of the strained decoction, an ounce of cummin seeds, bruised a little and tied in a linen cloth, is added; and the liquor afterwards boiled with four pounds of brown sugar and two of honey ‡.

‡ Mel solutiv.
Pb. Lond.

Rectified spirit extracts both the odoriferous and the purgative matter of the damask rose, equally with water, or rather more completely. The spirit, distilled off from the filtered tincture, proves slightly impregnated with the fragrance of the flowers, and the in-

spissated

spissated extract retains likewise a part of their flavour along with the bitterish matter. This extract, in quantity smaller, and in taste stronger, may be presumed to be more purgative, than that made with water.

2. ROSA RUBRA *Pharm. Lond. & Edinb.* *Rosa rubra multiplex* C. B. The red rose: with double flowers of a deep red colour.

THE red rose has very little of the fine flavour admired in the pale sort: to the taste, it is bitterish and subastringent. The astringency is greatest before the flowers have opened, and, in this state, they are chosen for medicinal use as a mild corroborant: the full-blown flowers are probably as laxative as those of the foregoing species, for Poterius relates that he found a dram of powdered red roses occasion three or four stools, and this not in a few instances, but constantly, in an extensive practice, for several years (a). The astringency of the buds is improved by hasty exsiccation in a gentle heat: by slow drying, both the astringency and the colour are impaired.

The fresh buds, clipt from the white heels, and beaten with thrice their weight of fine sugar, form an agreeable and useful conserve *; which is given in doses of a dram or two, dissolved in warm milk, in weaknesses of the stomach, coughs, and phthysical complaints. Instances are mentioned in the German ephemerides, and in Riverius's praxis, of very dangerous phthysical disorders being cured by the continued use of this medicine: in one of these cases, twenty pounds of the conserve were taken in the space of a month, and in another upwards of thirty pounds. Mixtures of the roses with a larger proportion of sugar are made in the shops into lozenges: one part of the buds clipt from the heels and hastily dried, and twelve parts of fine sugar, are separately reduced into powder, then mixed, and moistened with so much water as will render them of a due consistence for being formed †: or the conserve is mixed with as much fresh sugar as is sufficient to bring it to a like consistence, that is, about thrice its own weight ‡.

* Conserva-
sarium
Ph. L. & Ed.

† Saccharum
rosaceum P. L.

‡ Tabellæ ro-
sacæ Ph. Ed.

These flowers give out their virtue both to water and rectified spirit, and tinge the former of a fine red colour but the latter of a very pale one: the extract obtained by inspissating the watery infusion, is moderately austere, bitterish, and subsaline; the spirituous extract is considerably stronger both in astringency and bitterness. In the shops, six ounces of the dried rose-buds are infused in four pints or four pints and

(a) La Poterie (*Poterius*) *Pharmacopæia spagyrica*, lib. iii. sect. 2.

*Syrup. e rosis
ficis Pb. Ed.

Mel rosaceum
† Pb. Ed.
‡ lb. Lond.

§ Tinctura
rosarum
Ph. L. & Ed.

and a half of boiling water; and the infusion made into a syrup with six pounds of fine sugar *, or boiled to a syrupy consistence with six † or seven ‡ pounds of clarified honey: the syrup is valued chiefly for its gratefulness and fine red colour: the mixture with honey is used as a mild cooling detergent, particularly in gargarisms for inflammations and ulcerations of the mouth and tonsils. The infusions acidulated with a little vitriolic acid, and sweetened with sugar ||, make a grateful, cooling, restraining julep, which is sometimes directed in hectic cases and hemorrhagies, and along with boluses or electuaries of Peruvian bark, and sometimes is used as a gargarism: the college of London orders two pints and a half of boiling water, mixed with a scruple of oil of vitriol, to be poured on half an ounce of the fresh buds, and an ounce and a half of fine sugar to be dissolved in the strained infusion: that of Edinburgh orders two pints of water, and half a dram of the acid, to half an ounce of the dry buds and an ounce of sugar.

3. CYNOSBATUS Pharm. Lond. & Edinb. *Rosa silvestris vulgaris flore odorato incarnato* C. B. *Rosa silvestris inodora seu canina* Park. *Cynorrhodon*. Dog-rose, wild briar, hipp-tree: with single pentapetalous flowers, of a whitish colour mixed with various shades of red. It is one of the largest plants of the rose kind; grows wild in hedges; and flowers, as the garden sorts, in June.

§ Conf. fructus
cynosbati
Ph. L. & Ed.

THE flowers of this species, of an agreeable but weak smell and in taste bitterish and roughish, are said to have a greater degree of laxative virtue than those of the damask rose, together with a mild corroborating or restraining quality. The fruit, the only part of the dog-rose made use of in medicine among us, is agreeably dulco-acid, and stands recommended as a cooling restraining, in bilious fluxes, sharpness of urine, and hot indispositions of the stomach: the fresh pulp is made in the shops into a conserve, by mixing three ounces of it with five of fine sugar §. The pulp should be separated with great care from the rough prickly matter which incloses the seeds; a small quantity of which, retained in the conserve, is apt to occasion an uneasiness at the stomach, pruritus about the anus, and sometimes vomiting.

R O S M A R I N U S.

ROSMARINUS Pharm. Lond. *Rosmarinus, cujus flores anthos dicti*, Pharm. Edinb. *Rosmarinus hortensis angustiore folio* C. B. *Libanotis*

Libanotis coronaria quorundam. ROSEMARY: a large shrubby plant, clothed with long narrow stiff leaves, set in pairs, of a dark green colour above and hoary underneath; producing pale bluish labiated flowers, which stand in clusters round the stalk in the bosoms of the leaves. It is a native of the southern parts of Europe, common in our gardens, and seems to grow larger and more woody in this than in most other countries. It flowers in April and May, and sometimes again about the end of August.

ROSEMARY is a warm pungent aromatic; particularly useful in phlegmatic habits and debilities of the nervous system; of the same general nature with lavender, but with more of a camphorated kind of pungency, and of a stronger, and to most people less grateful, smell. The tender tops are the strongest both in smell and taste, and next to these the cups of the flowers; which last, though somewhat weaker than the leaves or tops, are nevertheless the most pleasant, and hence are generally preferred: it is chiefly, if not wholly, in the cup, that the active matter of the flower resides; for the bluish petalum, carefully separated, has very little smell or taste. The fragrance of these flowers is greatly diminished, or in great measure destroyed, by bruising or beating; and hence the officinal conserve, made by beating them with thrice their weight of sugar *, has very little of the flavour of the rosemary.

*Conserv. flor.
rorismarini
Ph. L. & Ed.

The leaves and tops of rosemary give out their virtues completely to rectified spirit, but only partially to water: the spirituous tinctures are of a yellowish green colour, the aqueous of a dark greenish brown. Distilled with water, they yield a thin, light, pale coloured essential oil †, inclining a little to yellowish or greenish, of great fragrancy, though not quite so agreeable as the rosemary itself: from one hundred pounds of the herb in flower were obtained eight ounces of oil: the decoction, thus divested of the aromatic part of the plant, yields on being inspissated an unpleasant weakly bitterish extract. Rectified spirit likewise, distilled from rosemary leaves, becomes considerably impregnated with their fragrance, leaving however in the extract the greatest share both of their flavour and pungency. The active matter of the flowers is somewhat more volatile than that of the leaves, greatest part of it arising with spirit. The Hungary water, used as a perfume, and sometimes medicinally in nervous complaints, and which is said to have received its name from its being first made public by an empress of that nation who was cured by its continued use of a paralytic disorder, is a strong spirit distilled from fresh rosemary flowers:

† Ol. rorismar.
essent. Pharm.
Lond. & Ed.

flowers: the college of Edinburgh directs a gallon of rectified spirit to be drawn over in the heat of a water bath from two pounds of the flowers as soon as they are gathered *: that of London takes the tops, and a spirit not quite so strong; putting a gallon of proof spirit to a pound and a half of the fresh tops, and drawing off in the heat of a water bath five pints †. The Hungary water brought from France is more fragrant than such as is generally prepared among us.

* Sp. rorismar.
vulgo Aq. reg.
hungariæ P. E.

† Sp. rorismar.
Pharm. Lond.

R U B I A.

RUBIA TINCTORUM Pharm. Lond. & Edinb. *Rubia tinctorum sativa* C. B. *Radix rubra*, & *erythrodanum quibusdam*.
MADDER: a rough procumbent plant, with square jointed stalks, and five or six oblong pointed leaves set in form of a star at every joint: on the tops come forth greenish yellow monopetalous flowers, deeply divided into four, five, or six segments, followed by two black berries: the root is long, slender, juicy, of a red colour both externally and internally, with a whitish woody pith in the middle. It is perennial, and cultivated in different parts of Europe (in some of which it is said to be indigenous) for the use of the dyers: the greatest quantities are produced in Zealand.

THE roots of madder have a weak, bitterish, somewhat austere taste, and no remarkable smell. They impart to water a dark red tincture, to rectified spirit and distilled oils a bright red. Taken internally, they tinge the urine red; and in the philosophical transactions, and the memoirs of the French academy of sciences, there are accounts of their producing a like effect upon the bones of animals with whose food they had been mixed: all the bones, particularly the more solid ones, were changed both externally and internally to a deep red, though neither the fleshy nor the cartilaginous parts suffered any alteration. The bones, so tinged, gave out nothing of their colour either to water or spirit of wine.

This root appears therefore to be possessed of great subtilty of parts, which may possibly render its medical virtues more considerable than they are now in general supposed to be. It has been chiefly recommended as a resolvent and aperient, in obstructions of the viscera, particularly of the urinary organs, in coagulations of blood from falls or bruises, in jaundices, and in beginning dropries. The root in substance is perhaps preferable to infusions or other preparations of it: extracts
made

made both by water, and by rectified spirit, shew, by the weakness of their taste, that either the menstrua do not dissolve all the active matter of the root, or that a part of its activity is destroyed in the inspissation.

R U S C U S.

RUSCUS *five bruscus* Pharm. Edinb. *Ruscus* C. B. *Ruscus myrtifolius aculeatus* Tourn. *Oxymyr sine, myrtacantha, myacantha* & *scopa regia quibusdam*. BUTCHERS BROOM OR KNEEHOLLY: a low woody plant, with oblong stiff prickly leaves joined immediately to the stalks: from the middle ribs of the leaves, on the upper side, issue small yellowish flowers succeeded by red berries: the root is pretty thick, knotty, furnished with long fibres matted together, of a pale brownish colour on the outside and white within. It grows wild in woods and on heaths, is perennial and evergreen, flowers in May, and ripens its berries in August.

THE root of butchers broom has a sweetish taste, mixed with a slight bitterishness. It stands recommended as an aperient and diuretic, in urinary obstructions, nephritic cases, dropsies, &c. Riverius tells us of an hydropic person who was completely cured by using a decoction of butchers broom for his only drink, and taking two purges of senna. The virtues of the root are extracted both by water and spirit, and on inspissating the liquors, seem to remain entire behind: neither of the extracts is very strong in taste, the watery the least so.

R U T A.

RUTA Pharm. Lond. & Edinb. *Ruta hortensis latifolia* C. B. RUE: a small shrubby plant, with thick bluish green leaves divided into numerous roundish segments: on the tops of the branches come forth yellowish tetrapetalous (sometimes pentapetalous) flowers followed each by a capsule, which is divided into four partitions full of small blackish rough seeds. It is cultivated in gardens, flowers in June, and holds its leaves all the winter. The markets are frequently supplied with a narrow-leaved sort, which is cultivated in preference to the other, on account of its appearing variegated during the winter with white streaks.

THIS herb has a strong unpleasant smell, and a penetrating pungent bitterish taste: much handled, it is apt to inflame and exulcerate the skin.

skin. It is recommended as a powerful stimulant, aperient, antiseptic, and as possessing some degree of an antispasmodic power; in crudities and indigestion, for preserving against contagious diseases and the ill effects of corrupted air, in uterine obstructions and hysteric complaints, and externally in discutient and antiseptic fomentations. Among the common people, the leaves are sometimes taken with treacle, on an empty stomach, as an anthelmintic. A conserve, made by beating the fresh leaves with thrice their weight of fine sugar *, is the most commodious form for the exhibition of the herb in substance.

* Conserv. fol.
rutæ P. L.

† Oleum rutæ
essentiale
Ph. L. & Ed.

‡ Extractum
rutæ P. L.

The virtues of rue are extracted both by water and rectified spirit, most perfectly by the latter: the watery infusions are of a greenish yellow or brownish; the spirituous, made from the fresh leaves, of a deep green, from the dry of a dark yellowish brown colour: the leaves themselves, in drying, change their bluish green colour to a yellow. On inspissating the spirituous tincture, very little of its flavour rises with the menstruum; nearly all the active parts of the rue remaining concentrated in the extract, which impresses on the palate a very warm, subtile, durable pungency, and is in smell rather less unpleasant than the herb in substance. In distillation with water, an essential oil † separates; in colour yellowish or brownish, in taste moderately acrid, and of a very penetrating smell rather more unpleasant than that of the herb: a very considerable part of the virtue of the rue remains behind; the decoction, inspissated, yielding a moderately warm, pungent, bitterish extract ‡. The active matter of this plant appears therefore to be chiefly of the more fixt kind: the essential oil itself is not very volatile, or at least is so strongly locked up by the other principles, as not to be readily elevated in distillation. The seeds and their capsules appear to contain more oil than the leaves: from twelve pounds of the leaves, gathered before the plant had flowered, only about three drams were obtained; whereas the same quantity of the herb with the seeds almost ripe yielded above an ounce.

S A B I N A.

SABINA Pharm Lond. & Edinb. Sabina folio tamarisci dioscoridis C. B. Savina quibusdam. SAVIN: an evergreen shrub or small tree, clothed with very short narrow leaves so stiff as to be prickly; producing small imperfect flowers, and sometimes, when grown old, bluish black berries like those of juniper, of which the modern

M A T E R I A M E D I C A.

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modern botany reckons it a species : Linnæus calls it *juniperus foliis oppositis erectis decurrentibus, oppositionibus pyxidatis*. It is a native of some of the southern parts of Europe, and raised with us in gardens.

THE leaves and tops of savin have a moderately strong smell, of the disagreeable kind ; and a hot, bitterish, acrid taste. They give out great part of their active matter to watery liquors, and the whole to rectified spirit ; tinging the former of a brownish, and the latter of a dull dark green colour. Distilled with water, they yield a large quantity of essential oil * : Hoffmann says, that from thirty-two ounces he obtained full five ounces of oil, and observes that there is no other known vegetable substance, except some of the resinous juices, as turpentine, that affords so much. The oil smells strongly, and tastes moderately, of the savin : decoctions of the leaves, freed from this volatile principle by inspissation to the consistence of an extract †, retain a considerable share of their pungency and warmth along with their bitterishness, and have likewise some degree of smell but not resembling that of the plant itself. On inspissating the spirituous tincture, there remains an extract consisting of two distinct substances ; one yellow, unctuous or oily, bitterish and very pungent ; the other black, resinous, tenacious, less pungent, and subastringent.

* Ol. essent.
sabinæ
Ph. L. & Ed.

† Extractum
sabinæ P. L.

Savin is a warm stimulant and aperient ; supposed particularly serviceable in uterine obstructions, proceeding from a laxity or weakness of the vessels, or a cold sluggish indisposition of the juices. The distilled oil is accounted one of the most potent emmenagogues : it is likewise a strong diuretic, and, as Boerhaave observes, impregnates the urine with its smell.

S A C C H A R U M.

SUGAR : a sweet substance, of a saline nature ; prepared from the juice of an elegant large cane or reed, *arundo saccharifera C. B.* which grows spontaneously in the East Indies and some of the warmer parts of the west, and is cultivated in large plantations in several of the American islands. The expressed juice of the cane is clarified with the addition of lime water, and boiled down to a somewhat thick consistence : being then removed from the fire, the saccharine part concretes into brown coloured masses, *saccharum rubrum Pharm. Lond. & Edinb.* leaving an unctuous liquid matter called melasses or treacle, from which a little more solid sugar, but of a coarser kind, is obtainable
by

by a repetition of the boiling and clarification. The brown sugar is purified in conical moulds, by spreading, on the upper broad surface, some moist clay; whose watery moisture, slowly percolating through the mass, carries with it a considerable part of the remains of the treacly matter. The clayed sugar, imported from America, is by our refiners dissolved in water, the solution clarified with whites of eggs, and after due inspissation, poured as before into conical moulds, where, as soon as the sugar has concreted, and the fluid part is drained off by an aperture at the bottom, the surface of the loaf is again covered with moist clay. The sugar, thus once refined, *saccharum album Pharm. Edinb.* becomes, by a repetition of the process, the double refined sugar of the shops, *saccharum purissimum Pharm. Lond.* Solutions of the brown or white sugars, boiled down till they begin to grow thick, and then removed into a very hot room, shoot, upon sticks placed across the vessels for that purpose, into brown or white crystals or candy, *saccharum candum Pharm. Edinb.*

SUGAR dissolves, by the assistance of heat, in rectified spirit; but greatest part of it separates again in the cold, and concretes into a crystalline form: On this foundation, saccharine concretions are obtained from saturated spirituous tinctures of several of the sweet plants of our own growth; the saccharine part separating when the tincture is set in the cold, while the resinous or other matter extracted from the plant, remains dissolved in the spirit. Solutions of sugar mingle uniformly with those of other saline substances, whether acid, alkaline, or neutral; and make no visible alteration in the infusions of the coloured flowers of vegetables, or other liquors, in which acids or alkalies produce a change of colour or a precipitation. This sweet saline substance appears on all trials completely neutral; and unites with most kinds of humid bodies, without altering their native qualities: it serves as an intermedium for uniting together some bodies naturally repugnant, as distilled oils and water. On the same principle it impedes the coagulation of milk, and the separation of its butyraceous part.

Sugar, in consequence of this property, is supposed to unite the unctuous part of the food with the animal juices. Hence some have concluded, that it increases corpulence or fatness; others, that it has a contrary effect, by preventing the separation of the oily matter, which forms fat, from the blood; and others, that it renders the juices thicker and more sluggish, retards the circulation, obstructs the natural secretions, and thus occasions or aggravates scorbutic, cachectic, hypochondriacal and other disorders. General experience, however, has

has not shewn, that sugar produces any of these effects in any remarkable degree: its moderate use appears to be innocent; and perhaps, of all that have yet been discovered, it is the most universally innocent and inoffensive, as well as the most simple, sweet.

Sugar preserves both animal and vegetable substances from putrefaction, and appears to possess this power in a higher degree than the common alimentary salt: I have seen animal flesh preserved by it untainted for upwards of three years. From this property it has been sometimes applied externally as a balsamic and antiseptic.

The impure brown sugars, by virtue of their oily or treacly matter, prove emollient and gently laxative. The crystals or candy are most difficult of solution, and hence are properest where this soft lubricating sweet is wanted to dissolve slowly in the mouth, as in tickling coughs and hoarseness. The uses of sugar in medicinal compositions, whether for their preservation, for procuring the intended form and consistence, or for reconciling to the stomach and palate substances of themselves disgusting, are too obvious to require being enlarged on.

S A G A P E N U M.

SAGAPENUM Pharm. Lond. & Edinb. Serapinum quibusdam.

SAGAPENUM: the concrete gummy-resinous juice of an oriental plant, of which we have no certain account, but which appears, from the seeds and pieces of stalks sometimes found among the juice as brought to us, to be of the ferulaceous or umbelliferous kind. The sagapenum comes immediately from Alexandria; either in distinct tears, or run together into large masses; outwardly of a yellow colour, internally somewhat paler and clear like horn; growing soft on being handled, so as to stick to the fingers. It is sometimes supplied in the shops by the larger and darker coloured masses of bdellium broken in pieces; which greatly resemble it in appearance, but may be distinguished by their much weaker smell.

SAGAPENUM has a strong disagreeable smell, somewhat of the leek kind, or like that of a mixture of galbanum with a little asafetida; and a moderately hot biting taste. It is one of the strongest of the deobstruent gums, and frequently prescribed, either by itself, or in conjunction with ammoniacum or galbanum, in hysteric cases, uterine obstructions, asthmas, and other disorders. It may be commodiously
taken

taken in the form of pills, from two or three grains to a scruple or half a dram : in doses of a dram, it loosens the belly.

On boiling this gummy-resin in water, about three fourths of it are resolved into a turbid yellowish white liquor, which smells and tastes weakly of the sagapenum. Rectified spirit scarcely takes up above one half, and receives very little colour : the solution smells weakly, and tastes pretty strongly. Both the watery and spirituous solutions lose much, in evaporation, of their taste as well as their smell : the watery loses most, the extract being very considerably weaker than the sagapenum in substance. It is probable that the more active parts are carried off by the watery vapour, but that in the spirituous extract they are only inviscated by the grosser resinous matter : for the water, collected by distillation, is notably impregnated with the flavour of the sagapenum, and discovers likewise a small portion of essential oil ; whereas the distilled spirit is almost flavourless.

S A L E S A L K A L I N I.

ALKALIES, or ALKALINE SALTS : substances of a very pungent taste ; dissoluble in cold water ; changing the colours of the blue flowers of vegetables to a green ; destroying the acidity of sour liquors, and forming with the acid a neutral compound ; precipitating earthy bodies dissolved in acids ; producing no precipitation or turbidness in solutions of the lixivial salts of vegetables. These lixivial salts are themselves alkalies : and to mingle uniformly with these bodies of their own kind, in a liquid state, is the most commodious and sure mark I can recollect, for distinguishing alkalies, universally, from certain solutions of earthy bodies in acids ; some of which have, in a greater or less degree, all the common characters of alkalicity, but on being examined by this criterion, readily betray their composition, by rendering the limpid lixivial liquor milky, and depositing their earth ; the acid, which before held the earth dissolved, being absorbed from it by the lixivial salt.

I. SAL ALKALINUS FIXUS. Fixt alkaline or lixivial salt : obtained from the ashes of vegetables, by macerating or boiling them in water, and afterwards evaporating the ley till the salt remains dry. It is fixt and fusible in the fire, deliquiates in a moist air, dissolves in equal its weight or less of water, and is never found to assume a crystalline form.

FIXT

Fixt alkaline salts have an acrid fiery taste, and leave in the mouth a kind of urinous flavour. Saturated solutions of them in water corrode the solid parts of animals, dissolve fats and oils into saponaceous compounds, and liquefy almost all the animal humours, except perhaps only milk, which, when heated, they coagulate. Diluted largely with water, and drank warm in bed, they generally excite sweat: if that evacuation is not favoured by external warmth, they operate chiefly by urine, of which, in many cases, as in maniacal and hydropic ones, they frequently procure a copious and salutary discharge: they likewise loosen the belly, and in costive habits, where the direct purgatives or laxatives give only temporary relief, they render the benefit more lasting. They seem in general to act by stimulating and deterging the solids, and resolving viscidities of the humours; and by these means opening obstructions, or promoting secretion, in all the organs through which they pass. The dose is from two or three grains to fifteen or twenty; in some cases, it has been extended, with advantage, to a dram: that they may be given, and continued for some time, with safety, in very considerable doses, appears from the experience of those, who have taken the strong solution of them called soap-leys for the relief of calculous complaints. In putrid disorders, and a colliquated state of the humours, these salts have been generally, and I think justly, condemned: for though they have lately been discovered to resist putrefaction both in the fluids and solids of dead animals, yet in living ones they apparently increase the colliquation, with which all putrid diseases are accompanied.

Fixt alkaline salts are obtainable, in greater or less quantity, from almost all vegetables; excepting perhaps only a few of the volatile acrid kind, as mustard seed. The salts of different plants, in the state wherein they are first extracted from the ashes, are found to differ a little in degree of strength, and in some other respects, from one another. Purified by calcination, so as that all remains of the oil of the vegetable may be burnt out; and by deliquiation in the air, by which only the alkali dissolves; they are all, except those of some marine plants (see *natron*), so much alike, as not to be distinguishable, by any known method of trial, from one another.

The salts of the leaves and other herbaceous parts of plants are more difficultly brought to a state of perfect purity than those of the more woody and compact; a portion of oily matter being tenaciously retained, minute indeed, yet sufficient to give a brownish tinge, and in some small degree to cover their acrimony. A salt of this kind is generally

* Sal abfin-
thii P. L.
Edinb.

† Sal geniffæ
Pharm. Edinb.

‡ Sal fabar.
Apit. P. E.

prepared, or expected to be prepared, from wormwood*, sometimes from broom†, and sometimes from bean stalks‡, all which are sufficiently well adapted to this use, their ashes yielding as large a proportion as most of the common herbaceous matters, and their salt seeming to be merely alkaline, or free from any of the other kinds of saline matter, of which the ashes of some vegetables contain more than they do of alkaline salt. About London, the shops are usually supplied from the country with the ashes of wormwood ready burnt; but that more of the oil may be consumed than the simple burning of the herb has dissipated, they are further calcined with a red heat, and occasionally stirred, for some hours: the white ashes are then boiled in water, and the filtered ley evaporated to dryness.

Some have endeavoured to retain in the salt as much as possible of the oil, by burning the plant with a close smothering heat continued no longer than till it is reduced fully to ashes; that is till the alkaline salt is generated, for these salts never exist naturally in any vegetable. The alkalies thus prepared are of a dark brown colour, much milder and less acrimonious, and more of a saponaceous nature, than those which have been further divested of oil.

|| Sal tartari
Ph. Lond.
Edinb.

Among all the known vegetables, or vegetable productions, there are none from which a pure alkaline salt is obtainable so easily, and in so large a quantity, as from the acid essential salts, such as tartar. If red or white tartar be burnt with a moderately strong fire, either in a proper vessel, or wrapt up in wetted brown paper to prevent the smaller pieces from dropping down through the interstices of the coals on being first injected into the furnace, it soon turns to white ashes, which yield on the first elixation a strong fiery salt ||, of a snowy whiteness, amounting to about one fourth the weight of the tartar. The strength of the salt is somewhat further increased, by keeping it melted for some hours in an intense fire; in which operation, if the crucible cracks or is left uncovered so as that the flame may have any access to the salt, or if a minute portion of any inflammable matter is introduced, it assumes, in part at least, a greenish or blue colour, which is commonly looked upon as a mark of its strength.---A pure and strong alkaline solution is obtained, by exposing to the air, in a moist place, either the salt § or the white ashes ** of tartar: the alkali imbibes in a few days so much of the aerial moisture, as to run wholly into a liquor, leaving, how highly soever the salt has been purified before, a considerable quantity of earthy matter.

§ Liquamen
salis tartari,
vulgo oleum
tartari per
deliquium
Pharm. Ed.
** Lixivium
tartari P. L.

Alkaline

Alkaline salts are prepared for common uses, in the way of trade, chiefly from wood; of which, in some parts of Germany and Russia, large piles are burnt on purpose. The purest of these is that called, from its colour, pearl-ash*, which may without much difficulty, by solution, &c. be made nearly as pure as the salt of tartar, and commonly supplies its place in the shops. The more impure sorts are called potashes; the strongest of which is brought from Russia, in dark coloured very hard masses†, containing so much earthy matter as scarcely to liquefy or grow moist in the air. This is said to be prepared by making a ley from only the coarser part of the wood-ashes, and mixing this with the finer part into the consistence of a paste, which is afterwards stratified with some of the more inflammable kinds of wood, and burnt a second time. It appears however, from some experiments lately made, that another ingredient is made use of in the process; the masses, as brought to us, being found to contain more quicklime than alkaline salt (a). On this depends the great strength and corrosiveness of the *Russia* potash.

* *Cineres clavellati. P. E.*

† *Cineres russici P. L.*

Quicklime remarkably increases the activity of all these salts; enabling them, in a liquid or dilute form, to dissolve oils, fats, &c. far more powerfully than either the lime or alkali by themselves; and in a solid or more concentrated one, to act as caustics (see page 161). For these purposes, equal parts of quicklime and potash are gradually sprinkled with so much water as will flake the lime: more water is then added, the whole stirred together, and suffered to stand for a day or two. The liquor, poured off clear from the undissolved lime, is the common soap ley. The college of London direct their soap ley to be made of such a strength, that an exact wine pint may weigh just sixteen ounces troy: if it is heavier, for every dram that it exceeds this weight, an ounce and an half of water by measure is to be added to each pint of the liquor: if lighter, it is to be boiled till the like quantity is wasted, or poured upon fresh lime and potash‡. The common leys of our soft soap makers are considerably stronger than this: Dr. Pemberton observes, that their leys will be reduced to the strength here proposed, by diluting them with somewhat less than an equal measure of water.

‡ *Lixivium saponarium Pb. Lond.*

The dry salt obtained by evaporating these leys is a strong and sudden caustic: for the greater convenience of using, it is urged in a crucible with a strong fire, till it flows like oil, then poured upon a flat plate made hot, and whilst the matter continues soft, cut into pieces of a

3 Q 2

proper

(a) See Dr. Home's *Experiments on bleaching*.

* Lap. septic.
feu cauterium
potentiale
Pharm. Ed.

† Causticum
comm. fort.
Pharm. Lond.

proper size and figure, which are kept in a glass vessel closely stoppt *. It deliquiates much sooner in the air, and dissolves more readily in watery liquors, than the milder alkalies, and in this consists its principal inconvenience; being apt to liquefy so much upon the part to which it is applied, as to spread beyond the limits in which it is intended to operate. This inconvenience is avoided, by boiling down the soap ley only to one fourth part, and then, while the liquor continues boiling, sprinkling in, by little and little, so much powdered quicklime as will absorb it so as to form a kind of paste †: the addition of the lime in substance renders the preparation less apt to liquefy, and hence more easily confinable within the intended limits, but at the same time proportionably more slow in its operation.

2. SAL ALKALINUS VOLATILIS. Volatile alkaline salt: obtainable, by distillation with a strong fire, from all animal matters, from foot, and in small quantity from most vegetables: producible also in some substances, particularly in urine, by putrefaction, and in this case separable by distillation with a gentle heat. When the salt is once formed, whether by ignition or putrefaction, it gradually exhales in moderately warm air; and rises sooner in distillation than highly rectified vinous spirits, condensing about the sides of the recipient into crystalline concretions. It requires for its solution four or five times its weight of water.

THESE salts are in smell as well as taste very penetrating and pungent: they are the only concrete salts that in their pure state emit sensible effluvia. They dissolve oils, resins, fats, &c. more languidly than the fixt alkalies, on account perhaps of their not being susceptible of any considerable heat, by which their menstrual power might be promoted. In the bodies of animals, they operate more powerfully than the fixt, both as resolvents and stimulants; are more disposed to direct their force to the cutaneous pores, and less to the grosser excretories; and act more remarkably upon the nervous system. They are particularly useful in lethargic and apoplectic cases; in hysterical and hypochondriacal disorders, and the languors, headaches, inflations of the stomach, flatulent colics, and other symptoms attending those distempers, especially in aged persons and those of a phlegmatic habit: in languors and faintings, their stimulating smell gives oftentimes immediate relief. In some kinds of fevers, particularly those of the low kind, accompanied with a cough, hoarseness, redundance of phlegm, and lentor of the blood, they are of great utility; liquefying the thick juices,

juices, raising the vis vitæ, and exciting a salutary diaphoresis. In putrid fevers, scurvies, and wherever the mass of blood is thin and acrimonious, they are hurtful: for though they powerfully resist the putrefaction of animal substances, that are detached from the vital œconomy, yet, in living animals, one of their primary effects is a colliquation of the humours, which in its advanced state is very nearly allied to the advanced state of putrefactive colliquation: their immoderate use has brought on high scorbutic symptoms, resembling those of the true putrid scurvy (*a*). These salts are most commodiously taken in a liquid form, largely diluted; or in that of a bolus, which should be made up only as wanted, the salt soon flying off. The dose is from two or three grains to ten, twelve, or more.

The volatile alkalies obtained from different substances appear, like the fixt, to be, in their state of perfect purity, one and the same thing. But as first distilled from the subject, they are largely impregnated with its oil rendered fetid or empyreumatic by the process in which the salt was generated; and as these oils differ from one another in degree of subtility and fetidness, the salts partake of the same differences, till repeated distillations or other processes have either separated the adhering oils, or subtilized and purified them to the same degree. By repeated distillations, all animal oils become limpid as water, lose their fetor, acquire a penetrating fragrant smell, and a gratefully pungent taste: thus rectified*, they are said, by Dippelius, Hoffmann, and others, to act, in doses of half a drop, as diaphoretics, anodynes, and antispasmodics. The volatile alkalies used in medicine are expected to be either pure from oil, or to have their oil in this subtilized state.

* Oleum animale vulgo.

The oily volatile alkalies have been chiefly prepared from hartshorn, by distillation in large iron pots, with a fire increased by degrees to a strong red heat. At first there arises an aqueous liquor, then the volatile salt, along with a yellowish and at length a dark reddish oil: if the aqueous liquor is not removed before the salt begins to come over, a part of the salt dissolves in it, and thus forms what is called spirit.

The oil (excepting so much of it as is incorporated with the alkali) may be separated from the spirit by filtration through wetted paper, which transmits the spirit and retains the oil. The salt and spirit are then distilled again together, with a very gentle heat, in a glass retort; and the distillation carefully repeated several times, till the salt becomes exceedingly white, and the spirit limpid as water and of a grateful smell†. The salt becomes the sooner pure, if it be separated from the

† Spirit. cornu cervi
Ph. Lond.

(a) See Huxham's Dissertation on the malignant sore throat.

Sal corn. cerv.

* *Ph. L.*† *Ph. Ed.*

‡ Spirit corn.

cervi *Ph. L.*

spirit, and sublimed first from an equal weight of pure chalk and afterwards from a little rectified spirit of wine*; or from twice its weight of potash†. The purification of the spirit is likewise expedited by distilling it from potash, in the proportion of two ounces to a pint‡: the potash may be again purified for use, by calcining it, so as to burn out the oil it has imbibed. If the whole of the volatile salt is required in a solid form, it may be recovered from the spirit by sublimation in a tall narrow cucurbit, the salt rising into the head, while the watery fluid remains behind. In all the distillations of the spirit, greatest part of the salt comes over before the phlegm; and the process should be continued no longer than till so much of the phlegm has followed as is nearly sufficient to dissolve it; that a part of the salt remaining undissolved may be a criterion, to the purchaser, of the saturation or strength of the spirit.---A spirit, salt, and oil are sometimes distilled in the same manner from wood foot, but here more labour is required to render the salt and spirit pure ||.

|| Sp. sal &
ol. fuliginis
Ph. Lond.

Though the whiteness and limpidity which the salts and spirits of hartshorn, foot, and other like substances, acquire by the above methods of purification, seem to shew that they are divested of oil; they are nevertheless found to participate still of that principle in no small degree. In long keeping they contract a yellow colour, and at length become again nauseous and fetid; the oil seeming to be more and more extricated, or to lose by degrees of the subtilty and gratefulness which it received from the rectification. The oftener the distillation is repeated, the more permanent is the subtilization of the oil.

THE most effectual purification of these salts is obtained, by combining them with mineral acids, and afterwards separating the acid. It is not needful to make such a combination on purpose: for such a one is produced more compendiously, in the way of trade, and called in the shops sal ammoniac: see the following article.

If sal ammoniac be mingled with any fixt alkaline salt, either in the form of powder or solution, its acid will be absorbed by the fixt alkali; and the volatile alkali, thus set at liberty again, will immediately discover itself by its pungent odour, and may be collected perfectly pure by distillation. Commonly equal parts of sal ammoniac and fixt alkali, separately powdered, are put into a glass retort, with so much water as is sufficient to dissolve them; and the distillation performed by a gradual fire in a sand-bath. The volatile salt rises first§, and may

§ Sal volat.
salis ammon.
Pharm. Ed.

may be kept apart by removing the recipient as soon as the water begins to come over : if a spirit is wanted, the distillation is continued till the salt is just dissolved by the water that succeeds it, and no longer * : from a pound of sal ammoniac, a quart is commonly drawn off †. The volatile alkaline salt may be extricated likewise by means of chalk, but with this difference, that the chalk does not begin to act upon the sal ammoniac, or absorb its acid; till the mixture is considerably heated : one part of the sal ammoniac may be mixed with two of chalk, and the mixture set to sublime in a retort with a strong fire ‡.

Sp. sal. am.

* Pb. Edinb.

† Pb. Lond.

‡ Sal. vol. sal. ammon. P. L.

Quicklime, which heightens the pungency of fixt alkalies even to causticity, has a like effect upon the volatile : it renders the fixt more easily liquefiable, and the volatile permanently liquid, preventing their concretion into a solid form : the volatile alkali, like the fixed, in having its activity thus increased by quicklime, loses its power of effervescing with acids ; from whence it may be presumed, that the lime acts, on one alkali as on the other, by absorbing their air (see page 161). This pungent volatile spirit may be prepared, by slaking about a pound and a half of quicklime in four pints of water, and adding to the mixture, in a retort, a pound of powdered sal ammoniac : immediately adapt a recipient, (for the pungent vapours begin to arise on the first contact) and with a gentle heat draw off two pints ||. This spirit is held too acrimonious for internal use, and has therefore been chiefly employed in smelling bottles. It is an excellent menstruum for certain vegetable substances, as Peruvian bark, which the milder spirits extract little from ; and when saturated with bodies of this kind, its pungency is so far sheathed, that it may be taken inwardly with as great safety as tinctures made in the other spirits. In long keeping, unless the bottle is quite full and very closely secured, it gradually imbibes air, as appears from the effervescence which it raises with acids ; and loses proportionably of its pungency.

|| Spir. volatiliss
caustic vulgo
Sp. sal. amm.
cum calce viv.

Some have mixed a quantity of this caustic spirit with the officinal spirits both of sal ammoniac and of hartshorn ; which thus become more pungent, so as to bear an addition of a considerable proportion of water without danger of discovery from the taste or smell. This abuse may be detected, by adding to the suspected spirit a quantity of spirit of wine ; which, if the volatile spirit is genuine, will precipitate a part of its volatile salt, but has no such effect either on the caustic spirit itself, or on such as is sophisticated with it. Some have substituted to the spirit a solution of sal ammoniac and fixt alkaline salt : this liquor eludes the above method of trial, as it deposits a saline matter

matter on the addition of spirit of wine, in the same manner as the genuine volatile spirit: it may be distinguished by the matter, thus deposited, being not volatile but fixt; or by a fixt salt being left upon evaporating a little of the liquor; or more compendiously, by adding a drop or two of solution of silver made in aqua fortis, which immediately produces a milkiness in the counterfeit, but makes no apparent change in the genuine spirit.

* Offa alba
Helmontii.

The addition of spirit of wine to volatile alkaline spirits affords means of judging, in some degree, of their strength or saturation as well as of their purity. If the volatile spirit be fully saturated with salt; a quantity of highly rectified spirit of wine, poured on it slowly down the sides of the glass, in a cool place, produces immediately an opaque dense coagulum on the surface where the liquors touch: on shaking them together, the whole becomes a consistent mass, which soon resolves by warmth into a fluid and a solid part *. This is supposed by some to be a volatile soap, composed of the alkaline salt of the one spirit and the oily principle of the other; though in effect it is no more than the alkaline salt itself dislodged, by the vinous spirit, from the watery fluid in which it was dissolved: the quantity of salt, thus separated, will be in proportion to the strength of the volatile spirit.

† Spirit. salis
ammon. dulc.
Ph. Lond.

Though volatile alkalies, not caustic, appear from the above experiments to be averse to any union with vinous spirits; a solution of them even in rectified spirit is nevertheless obtainable, by adding it, along with water, in the process by which they are extricated from the sal ammoniac. For this purpose, three pints of proof spirit are put to four ounces of sal ammoniac, and six (or less) of any fixt alkaline salt, and one half of the liquor drawn off with a gentle heat. The distilled liquor, consisting of the purely spirituous part of the proof-spirit considerably impregnated with the volatile alkali of the sal ammoniac, is commonly called dulcified spirit of sal ammoniac †, and has lately come into esteem both as a medicine and a menstruum.

‡ Spir. volatil.
aromatic.
Ph. Lond.

Mixtures of volatile and vinous spirits, flavoured with different aromatic oils and other like materials, have long been in general use under the name of *sal-volatile*. The college of London orders a quart of the above dulcified spirit, two drams of essential oil of nutmegs, the same quantity of essence of lemons, and half a dram of oil of cloves, to be distilled together with a very gentle heat ‡: that of Edinburgh directs an ounce and a half of oil of rosemary, an ounce of oil of amber, and half an ounce of essence of lemons, to be put to eight ounces of the volatile salt of sal ammoniac and a gallon and a half of French brandy, and

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and near a gallon to be drawn off in the heat of a water bath *. Volatile spirits are impregnated also in the shops with asafetida, in the proportion of four ounces to five pints †.

* Sp. vol. ol.
vulgo salinus
aromatic.
Pharm. Ed.
† Sp. volat.
fœtid. P. L.

These kinds of compositions may be made likewise extemporaneously, by dropping any proper essential oils into the dulcified spirit of sal ammoniac, which will readily dissolve them without the assistance of distillation. By this method, a sal-volatile may be occasionally prepared, of any particular flavour, or adapted to particular purposes: thus, in hysterical disorders where the uterine purgations are deficient, a preparation of this kind, made with the oils of rue or savin, proves an useful remedy: in weakness of the stomach, oil of mint may be used; and in flatulent cases, those of aniseeds or sweet fennel seeds: these last remarkably cover the pungency of the volatile spirit, and render it supportable to the palate. The dose of these compounds is from a few drops to sixty or more.

The caustic spirit made with quicklime appears in some cases preferable, for these kinds of compositions, to the other volatile spirits; as being perfectly miscible with rectified spirit of wine, in any proportions, without any separation of its volatile alkaline impregnation; and as being a more powerful menstruum for some difficultly soluble oils, as that of amber. The very penetrating pungent volatile spirit, which has lately come into vogue under the name of *eau de luce*, is made with this caustic spirit, and oil of amber that has been rectified or redistilled till it becomes limpid and loses its ill smell: thirty-six drops of the oil, so rectified, are dissolved in half an ounce of rectified spirit of wine, and twelve ounces of the caustic spirit added gradually to this solution: if on this commixture, any part of the oil separates, so as to render the liquor turbid, which is generally the case unless the caustic spirit be exceedingly strong, the mixture is made limpid by distillation: some tinge it of a fine blue colour, when designed only for smelling to, by adding a drop or two of solution of copper.

S A L A M M O N I A C U S.

SAL AMMONIACUS Pharm. Lond. Sal ammoniacum Pharm. Edinb. SAL AMMONIAC; a neutral salt; volatile in a moderate heat, but not in that of boiling water; formed by the coalition of volatile alkaline salt with marine acid. On mixing with it a fixt alkaline salt or calcareous earth, and exposing the mixture to the fire,

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its ingredients are disunited: the volatile alkali exhales, and may be collected in proper vessels (see the foregoing article): and the acid remains combined with the fixt alkali or earth, forming therewith the same compounds as if the pure marine acid had been poured upon them. Hence, in the preceding operations, where the volatile alkali of the sal ammoniac is separated by the intervention of fixt alkalies, the residuum, dissolved and crystallized, is found to be the same with *regenerated sea salt*; and when chalk or lime is used for the intermedium, the residuum affords *calcareous marine salt*: see *sal communis*.

THE other mineral acids form likewise ammoniacal salts with volatile alkali; and it is said, that one made with the vitriolic acid is often substituted to the true officinal one with the marine.---The most obvious character of ammoniacal salts in general is, their yielding a pungent urinous odour on being ground with a little quicklime. The marine sal ammoniac may be distinguished from those made with the other acids, by its emitting white fumes on dropping upon it some oil of vitriol, and by a solution of it in aqua fortis being able to dissolve gold leaf or a mark made with gold on a touchstone: the nitrous sal ammoniac is distinguished, by its deflagrating when thrown into a red hot vessel, dissolving in spirit of wine, and yielding red fumes with oil of vitriol: the vitriolic, by its rendering solution of chalk in aqua fortis milky, and not being acted upon by oil of vitriol.

SAL AMMONIAC has been hitherto prepared chiefly in Egypt: it is said, that the earth abounds there with marine salt; that grass and other vegetables are sensibly impregnated with this salt; that the dung of graminivorous quadrupeds is used as fuel, and the soot carefully collected; and that from this soot, sal ammoniac is extracted, by sublimation without addition. The salt is brought to us, sometimes in conical loaves, most commonly in large round cakes, convex on one side and concave on the other, appearing when broken of a needled texture, or composed of striæ running transversely and parallel to one another: the internal part is generally pure, and of an almost transparent whiteness; the outside for the most part foul and of a yellowish grey or blackish hue. It is purified, either by sublimation, with a gradual fire, in an earthen cucurbit having a blindhead adapted to it*; or, perhaps more perfectly, by solution in water, filtration, and crystallization†. It dissolves, in temperately warm weather, in about thrice its weight of water, and by the assistance of heat in a much smaller quantity; and crystallizes into long shining spicula, or thin fibrous plates like feathers. In sublimation, especially if the fire is hastily

* Flos sal. am
Ph. Ed.

† Sal amm
purificat. Ph.
Lond. & Ed.

hastily raised, it remarkably volatilizes many kinds of bodies, perhaps all those that are soluble by the marine acid.

This salt has a very sharp penetrating taste. It is a powerful attenuant and deobstruent, seeming to liquefy the animal juices almost like alkaline salts: Boerhaave observes that its liberal and continued use renders the blood so thin as to burst through the vessels, particularly those of the lungs and the urinary organs. In doses of half a dram or a dram, dissolved in water, if the patient is kept warm, it generally proves sudorific: by moderate exercise, or walking in the open air, its action is determined to the kidneys: in larger doses it loosens the belly. It has by some been held a secret for the cure of intermittents; and is undoubtedly, in many cases, as an aperient, an excellent assistant to the Peruvian bark, where that astringent drug by itself would produce dangerous obstructions, or aggravate those already formed. This salt is employed likewise externally as an antiseptic, and in lotions and fomentations for œdematous tumours; as also in gargarisms, for inflammations of the tonsils, and for attenuating and dissolving thick mucus in the mouth and fauces. Saturated solutions of it are said to consume warts.

S A L C A T H A R T I C U S.

PURGING SALT: a salt of a bitter taste; soluble in twice its weight or less of water, and shooting into long prismatic crystals like those of nitre; liquefying and bubbling up in a moderate heat, emitting a large quantity of aqueous vapours, and changing to a white spongy mass, bitterer than the salt at first. It is of two kinds; one a combination of the vitriolic acid with the earth called *magnesia*; the other, a combination of the same acid with the fixt alkali called *natron*. The most obvious criterion of their acid being the vitriolic is, their precipitating chalk dissolved in aqua fortis or in other acids.

I. SAL CATHARTICUS AMARUS *Pharm. Lond.* *Sal catharticum amarum Pharm. Edinb.* *Nitrum calcareum Listero & hydrologis quibusdam.* Purging bitter salt: composed of the vitriolic acid and *magnesia*; distinguishable from that whose basis is an alkali, by solutions of it being turned milky, and depositing their earth, on the addition of any alkaline salt.

THIS is the salt with which the purging mineral waters are principally impregnated, and on which their purgative quality depends.

It was first extracted from the Epsom waters, and has been commonly distinguished, both in this and other countries, by the name of Epsom salt: but those waters yielding the salt very sparingly, and their quantity being insufficient for its great demand, it was sought for elsewhere, and found, in plenty, in the bitter liquor remaining after the crystallization of common salt from sea water; from which it is now generally prepared.

This salt is a gentle purgative, operating in general with ease and safety yet with sufficient efficacy, and quickly finishing its operation: its passing off hastily, and not extending its action so far as most other purgatives, seems to be its principal imperfection. For a full dose, eight or ten drams may be dissolved in a proper quantity of common water, or four or five drams in a pint or quart of the purging waters; to which may be added a little tincture of cardamom seeds, or some other grateful aromatic, to render the liquor more acceptable to the stomach. These liquors, in smaller doses, pass further into the habit, promote the secretions in general, and prove excellent aperients in sundry chronical disorders.

2. SAL CATHARTICUS GLAUBERI, *vulgo sal mirabile*. Glaubers cathartic salt: composed of the vitriolic acid and the mineral alkali *natron*, and hence suffering no change from an admixture of fresh alkali.

THIS salt was discovered, by the chemist whose name it bears, in extracting the acid spirit of sea salt by means of the vitriolic acid. When oil of vitriol is poured on sea salt, the marine acid, thereby disengaged from its own alkaline basis, begins immediately to exhale, and by applying heat may be totally expelled; the vitriolic acid remaining combined with the natron or marine alkali. This combination is still procured chiefly in the same manner: to the sea salt is added equal * or half † its weight of oil of vitriol diluted with water, and the marine acid being distilled off, the residuum is dissolved and crystallized. The smallest of these proportions of oil of vitriol appears to be sufficient for expelling the acid and saturating the alkali of the sea salt; but the larger, or rather perhaps one between the two, is more eligible, as the Glaubers salt does not well crystallize unless the acid prevails in the solution.

This salt is nearly of the same medicinal qualities with the foregoing, which generally supplies its place in the shops. The Glaubers salt, somewhat

Sal cathart.
glaub.

* *Pb. Lond.*

† *Pb. Edinb.*

somewhat the least unpleasant to the taste, is supposed to be the mildest of the two, and to operate the most kindly.

S A L C O M M U N I S.

COMMON or CULINARY SALT; called, from its most obvious source, sea salt; though found also, in immense quantities, in the bowels of the earth. It is a perfectly neutral salt, composed of a peculiar acid denominated from it the *marine acid*, and of the mineral alkali *natron*. It dissolves in thrice its weight or less of boiling water, and does not, like the other neutral salts, concrete again in the cold, so long as the evaporation of the fluid is prevented; cold water dissolving nearly as much of this salt as boiling water. By gentle continued evaporation it shoots into cubical crystals, several of which unite together into the form of hollow truncated pyramids. The crystals, exposed to the fire, burst and crackle *, soon after melt, and appear * Sal decrepitatum. thin and limpid as water: if the salt be melted along with other fusible salts, or with vitreous matters, it does not unite with them, but flows distinct upon the surface. After suffering a considerable heat, it liquefies in the air.

1. SAL GEMMÆ *Pharm. Lond. & Edinb.* Sal gem, rock salt, fossil common salt. This is met with in several parts of the world, but in greatest plenty in certain deep mines, of prodigious extent, near Cracow in Poland: some is likewise found in England, particularly in Cheshire. It is for the most part very hard; sometimes pure, transparent and colourless; more commonly mixed with earthy or stony matters, of an opaque whiteness, or of a red, green, blue, or other colours. These last sorts are purified, for the common uses of salt, by solution and crystallization.

2. SAL MARINUS *Pharm. Lond.* *Sal marinum Pharm. Edinb.* The salt extracted from sea water and saline springs. Sea waters yield from one fiftieth to about one thirtieth their weight of pure salt: from several springs much larger quantities are obtained; those in our own country at Nantwich, Northwich, and Droitwich, afford from one sixth to one third their weight. Sea water contains, besides the common salt, a portion of purging bitter salt, and of another saline substance which remains dissolved after the crystallization of the latter, of a very pungent taste, scarce reducible into a crystalline form, composed

poled of marine acid and calcareous earth: from both these salts the spring waters are usually free. There are two general methods of extracting the common salt from these natural solutions of it: the one, a hasty evaporation, continued till the salt concretes and falls in grains to the bottom of the pan, from whence it is afterwards raked out, and set to drain from the bittern: the other, a slow and gradual evaporation, effected in the warmer climates by the sun's heat, by which the salt is formed, not into small grains, but into large crystals, called bay-salt. The salts obtained by these two processes differ in some respects from one another: that got by hasty evaporation, especially if a boiling heat or one approaching to it be continued during the time of the salts concreting, is apt to liquefy in a moist air; an inconvenience which the crystallized sort is not subject to: the crystals are found likewise to be stronger than the other, and to answer better for preserving provisions. Both sorts prove impure and brown coloured if the solutions are evaporated directly, but of perfect whiteness if previously clarified by boiling with a little ox blood, or other like substances, which concreting by the heat, inviscate the unctuous matter, and carry it to the surface in form of scum. Both sorts generally retain a portion of the bitter salt; whose basis being an earth, solutions of them deposite this earth on the addition of any alkali.

COMMON salt differs from other saline substances in occasioning drought, and tending, not to cool, but rather to heat the body. It prevents putrefaction less than most others, and in small quantities, such as are taken with food, promotes it: by this quality it probably promotes also the resolution of the aliment in the stomach, at the same time that it proves a mild stimulus to that viscus itself. Salted animal foods are generally, perhaps justly, accounted one of the principal causes of the scurvy at sea; not that the salt is of itself prejudicial; but on account of its being incapable of preserving the animal subjects, for a length of time, in a perfectly uncorrupted state. Pure sea salt, and sea water, are rather salubrious than hurtful, both in the true scurvy, and in impurities of the blood and humours in general. In considerable doses, they act as purgatives: Hoffmann observes, that an ounce of the salt, dissolved in a proper quantity of water, occasions commonly six stools or more, without uneasiness; that this salt checks the operation of emetics, and carries them off by stool; that in glysters it is more effectual, though used only in the quantity of a dram, than any of the purgatives; and that where other glysters fail of opening the belly, a solution of common salt takes place.

This

This salt, contrary to other neutral ones, parts with a little of its acid in the boiling down of solutions of it to dryness. Hence the weakness of the salt prepared by that process, and its disposition to deliquiate in the air; both which imperfections may be corrected by a small addition of fresh acid when the salt begins to concrete. Hence also distilled sea water is manifestly impregnated with acid, so as to be unfit for drinking or for the common purposes of life; unless a little chalk, vegetable ashes, or other like substances, be added in the distillation, to absorb and keep down the acid extricated by the heat: by this means the distilled fluid proves perfectly sweet.

The acid of sea salt is completely disengaged from its alkaline basis by the more powerful acid of vitriol; and may now be collected, in a concentrated state, by distillation: but as, in this concentrated state, its fumes very difficultly condense, a little water is commonly added to promote that effect. On two pounds of dry sea salt, the college of London directs two pounds of oil of vitriol diluted with a pint of water, that of Edinburgh one pound of oil of vitriol diluted with equal its quantity of warm water, to be poured by little and little, under a chimney, that the operator may not be incommoded by the noxious fumes: the retort is placed in sand, and the distillation performed with a fire gradually increased till nothing more will arise. The spirit may be freed from its superfluous water, by a second distillation in a glass cucurbit; the phlegmatic part rising in the heat of a water bath, while the stronger acid remains behind. The distilled spirit proves nearly the same, whether the larger or smaller of the above proportions of oil of vitriol are used, the difference affecting chiefly the residuum: see the foregoing article. The acid of sea salt is extricated also on the addition of the nitrous acid; by which, as by the vitriolic, the sea-salt's alkali is absorbed more strongly than by its own acid.

Spirit. salis
marini.

THE marine acid is distinguished from the others, by its rising in white fumes; by its peculiar pungent smell; by its enabling the nitrous acid to dissolve gold, preventing its dissolving silver, and precipitating silver previously dissolved, but producing no precipitation in solutions of calcareous earths. It is sometimes given, from ten to sixty or seventy drops, properly diluted, as an antiphlogistic, diuretic, and for promoting appetite; but its principal use is in combination with other bodies.

Combined with volatile alkalies, it produces the officinal sal ammoniac. With the mineral fixt alkali, it regenerates common salt. With vegetable fixt alkalies, it forms a neutral salt of a sharper taste, and some-

somewhat more difficult of fusion and solution, than common salt: this combination is prepared in the shops, by dropping into the marine spirit a lixivium of the fixt alkali till all effervescence ceases, and then evaporating the mixture to dryness*: the same salt may be obtained from the matter which remains after the distillation of spirit of sal ammoniac with fixt alkali: see pages 486 and 49c.

* Spirit. salis
marini coag.
Ph. Lond. &
Wirtemb.

Sal marin. re-
generat. vulgo.

† Sal ammon.
fixum vulgo.

Sal muriatic.
calcareus.

With calcareous earths, it forms a very pungent saline compound †, which difficultly assumes a crystalline form, deliquiates in the air, dissolves not only in water but in rectified spirit of wine, and changes the colour of blue flowers of vegetables to a green. This salt is contained, in considerable quantity, in sea water, and remains fluid after the crystallization of its other saline matters: it is found also in sundry common waters, to which, like the calcareous nitre, it communicates, according to its quantity, a greater or less degree of hardness and indisposition to putrefy: it is far more antiseptic than the perfect marine salt. It is said to be diuretic and lithontriptic: the medicine commonly sold as a lithontriptic under the name of *liquid-shell*, appears to be no other than a combination of this kind, consisting of calcined shells dissolved in marine acid. These combinations have been chiefly prepared, by mixing the calcareous earth with sal ammoniac, and urging the mixture with a gradual fire, till the volatile alkali of the sal ammoniac is either dissipated in the air or collected by distillation, and only its acid left incorporated with the earth: so much of the earth, as is satiated with the acid, may be separated from the rest by elixation with water.

This acid dissolves, among metallic bodies, zinc and iron pretty readily; copper and tin languidly; bismuth and arsenic very difficultly and sparingly; lead, mercury, regulus of antimony, and silver, not at all unless highly concentrated and applied in the form of fume: it dissolves, by digestion, all metallic bodies when reduced to a state of calx, gold not excepted. Though it difficultly unites with metals, it adheres more strongly than any other acid, and in part volatilizes them: it renders them likewise more fusible in the fire than the other acids do, and more disposed to solution in spirit of wine.

Of itself it is nevertheless the most averse of all acids to a perfect union with vinous spirits. If poured gradually into thrice its quantity of rectified spirit of wine, and the mixture, after digestion for some days, submitted to distillation in a sand-heat; the spirit that comes over ‡, appears to be little other than the acid simply diluted with the vinous spirit; whereas, when the nitrous or vitriolic acids are treated in

‡ Spir. salis
Jalcis P. E.

in the same manner, a new compound is formed by the intimate coalition of the acid spirit with the inflammable. The dulcified marine acid has by some been held in great esteem against weakness of the stomach, indigestion, and other like complaints brought on by irregularities.

S A L V I A.

S A G E: A low shrubby plant; with square stalks, obtuse wrinkled dry leaves set in pairs, and large bluish labiated flowers in loose spikes on the tops of the branches: the upper lip of the flower is nipt at the extremity, the lower divided into three segments. It is a native of the southern parts of Europe, common in our gardens, and flowers in June.

1. SALVIA *Pharm. Lond.* *Salvia hortensis major Pharm. Edinb.*
Salvia major C. B. Common sage: with the leaves nearly oval, but acuminate, sometimes green and sometimes red: both the green and red sorts rise from the seeds of one and the same plant.

2. SALVIA HORTENSIS MINOR *Pharm. Edinb.* *Salvia minor aurita & non aurita C. B.* Small sage, or sage of virtue: with narrower leaves, generally whitish, never red: most of them have at the bottom a piece standing out at each side in the form of ears.

THE leaves and tops of sage are moderately aromatic and corroborant, and used in debilities and relaxations both of the nervous and vascular system. Their smell is pretty strong and not disagreeable; their taste somewhat warm, bitterish, and subastringent: with solution of chalybeate vitriol, they strike a deep black colour. The second sort is both in smell and taste the strongest, the first most agreeable. Of both kinds, the flowers are weaker and more grateful than the leaves; and the cup of the flower stronger, and obviously more resinous, than any other part.

The leaves of sage give out their virtue both to water and rectified spirit, most perfectly to the latter: to the former they impart a brownish, to the latter a dark green tincture. The watery infusion is often used as tea, and often acidulated with a little lemon juice for a diluent in febrile distempers: the spirituous tincture is in taste stronger than the watery, but the smell of the sage is by this menstruum covered or suppressed. The leaves and flowery tops, distilled with water, yield a small quantity of essential oil, smelling strongly and agreeably of the herb, in taste very warm and pungent, when newly distilled of a fine
 3 S green

green colour, by age turning yellow or brown: the remaining decoction, divested of this aromatic and most active principle of the sage, yields an extract weakly bitterish, subastringent, and subsaline. The spirituous extract, in smell weak and somewhat different in kind from that of the herb itself, discovers to the taste a considerable aromatic warmth and pungency, resembling that of camphor but milder.

S A M B U C U S.

ELDER: a plant with finely serrated sharp-pointed leaves, set in pairs on a middle rib, with an odd one at the end; producing, on the tops of the branches, umbel-like clusters of small white flowers, followed each by a juicy berry containing generally three seeds.

1. SAMBUCUS *Pharm. Lond.* *Sambucus vulgaris Pharm. Edinb.*
Sambucus fructu in umbella nigro C. B. Aët. Elder tree: with nearly oval leaves, of which five or seven stand on one rib. It is a small tree or shrub, covered with an ash-coloured chapt bark, under which lies a thinner green one, and under this a white: it grows wild in hedges, flowers in May, and ripens its black berries in September.

The bark of this tree is recommended as a strong hydragogue in hydropic cases. Sydenham directs three handfuls of the inner bark to be boiled in a quart of milk and water till only a pint remains, of which one half is to be taken in the morning, and the other at night, and this repeated every day: he observes, that this medicine operates both upwards and downwards; and that if it does not vomit or purge at all, or but gently, it does no service. Boerhaave says that the expressed juice of the middle bark, given from a dram to half an ounce (some go as far as an ounce), is the best of hydragogues where the viscera are found; and that it so powerfully dissolves the humours, and procures so plentiful watery discharges from all the emunctories, that the patient is ready to faint from the large and sudden inanition. The decoction and juice are recommended also, in smaller doses, as useful aperients and deobstruents in different chronical disorders. This bark has scarcely any smell, and very little taste: on first chewing, it impresses a kind of sweetishness, which is followed by a very slight but very durable acrimony, in which its medical activity seems to reside, and which it imparts both to watery and spirituous menstua.

The leaves, of a faint unpleasant smell, and a strong, very nauseous, bitter kind of taste, are said to be purgative and emetic like the bark. They are celebrated externally against burns and inflammations, and
for

for these purposes an ointment is prepared from them in the shops: four ounces of the leaves, and the same quantity of the inner bark, fresh, are thoroughly bruised, and boiled in a quart of linseed oil till the watery moisture is consumed and the oil tinged of a green colour: the oil is then pressed out, and brought to the consistence of an ointment by melting in it six ounces of white wax *.

The flowers of elder have an agreeable flavour, which they give over in distillation with water, and impart by infusion both to water and rectified spirit: on distilling with water a large quantity of the flowers, a small portion of a butyraceous essential oil separates. Infusions made from them while fresh are gently laxative and aperient: when dry, they are said to promote chiefly the cuticular excretion, and to be particularly serviceable in erysipelatous and eruptive disorders. From these also an unguent is prepared, probably of equal efficacy with the other, and preferred by some as being more elegant, by melting three pounds of mutton suet with a pint of oil-olive, and boiling in this mixture four pounds of the full blown flowers till they are almost crisp †.

* Unguentum
sambucinum
Ph. Ed.

The berries, in taste sweetish and not unpleasant, yield on expression a fine purplish juice, which inspissated to the consistence of honey, either by itself ‡ or with the addition of half a pound of fine sugar to a quart §, proves an useful aperient and resolvent in recent colds and fundry chronical disorders, gently loosening the belly, and promoting urine and perspiration.

† Unguentum
sambucinum
Ph. Lond.

Robbaccarum
sambuci
‡ Ph. Lond.
§ Ph. Ed.

2. EBULUS *Pharm. Edinb.* *Sambucus humilis sive ebulus C. B. Chamææte.* Dwarf-elder or danewort: an herbaceous plant, dying to the ground in winter; with longer leaves than those of the arborefcent species, and nine leaves on one rib. It grows wild in some parts of England, flowers in July, and produces ripe black berries in the beginning of September.

It is said that this species has the same virtues with the preceding, but differs somewhat in degree: that the bark (that of the root has been chiefly used) and the berries, are respectively more efficacious, and the leaves less so: that the rob or inspissated juice of the berries, in doses of half an ounce or an ounce, acts as a strong hydragogue, and in smaller doses as a powerful resolvent and deobstruent.

S A N G U I S D R A C O N I S.

SANGUIS DRACONIS *Pharm. Lond. & Edinb.* *Cinnabaris Græcorum.* DRAGONS-BLOOD, so called: a resin, obtained from certain

M A T E R I A M E D I C A.

large palm-like trees growing in the East-Indies; brought over in oval drops wrapt up in flag-leaves, or in large and generally more impure masses composed of smaller tears; of a deep dark red colour, which changes, in pulverisation, to a crimson. Sundry artificial compositions, coloured with the true dragons-blood, or with brazil wood or other materials, have been sometimes sold in the room of this commodity: some of these dissolve like gums in water, and others crackle in the fire without proving inflammable; whereas the genuine dragons-blood readily melts and catches flame, and is scarcely acted on by watery liquors. It dissolves almost totally, by the assistance of heat, in rectified spirit, and tinges a large quantity of the menstruum of a deep red colour: it is likewise soluble in expressed oils, and imparts to them a red tincture, less beautiful than that which anchusa communicates.

THIS resin, in substance, has no perceptible smell or taste: when dissolved, whether in vinous spirits or in oils, it discovers some degree of pungency and warmth. It is usually looked upon as a gentle increas-
fant, desiccative, and restraining; and sometimes prescribed in these intentions against alvine and uterine fluxes, and ulcerations both internal and external.

S A N I C U L A.

SANICULA seu diapensia Pharm. Edinb. Sanicula officinarum C. B.
SANICLE: an umbelliferous plant, with shining dark green roundish leaves, cut into five segments, serrated about the edges; and rough seeds which stick to the clothes. It is perennial and evergreen, grows wild in woods and on hilly grounds, and flowers in May.

THIS herb, recommended both externally and internally as a vulnerary or mild restraining, and supposed to have received its name from the sanative virtues ascribed to it, discovers to the taste a kind of bitterness and roughness, followed by an impression of acrimony which affects chiefly the throat: in the fresh leaves, the taste is very weak; in the dry leaves, considerable; in the extracts made from them, by water and spirit, moderately strong.

S A N T A L U M.

SAUNDERS. Three different woods are brought under this name from the East-Indies, in large billets: they are said to be the produce, chiefly, of the island Timor,

1. SANTALUM

1. *SANTALUM CITRINUM Pharm. Edinb.* Yellow faunders: of a pale yellowish or brownish colour, and a close even grain. This wood has a pleasant smell, and a bitterish aromatic taste accompanied with an agreeable kind of pungency. Distilled with water, it yields a fragrant essential oil, which thickens in the cold into the consistence of a balsam, approaching in smell to ambergris, or a mixture of ambergris and roses: the remaining decoction, inspissated to the consistence of an extract, is bitterish and slightly pungent. Rectified spirit extracts, by digestion, considerably more than water: the colour of the tincture is a rich yellow. The spirit, distilled off, is lightly impregnated with the fine flavour of the wood: the remaining brownish extract has a weak smell, and a moderate balsamic pungency. This wood therefore, though at present among us disregarded, promises to have a good claim to the corroborant virtues ascribed to it by Hoffman and others.

2. *SANTALUM ALBUM.* White faunders: of a close texture and straight fibres like the preceding, but of a paler whitish colour. This species, far weaker than the yellow both in smell and taste, promises very little medicinal virtue: it has long stood entirely neglected, and is now rarely to be met with in the shops.

3. *SANTALUM RUBRUM Pharm. Lond. & Edinb.* Red faunders: of a dull red almost blackish colour on the outside, and a deep brighter red within: its fibres are now and then curled, as in knots. This also, recommended as an astringent and corroborant, appears to be of very little virtue, as it has no manifest smell, and little or no taste: even of extracts made from it, with water or with spirit, the taste is inconsiderable. Its principal use is as a colouring drug. To watery liquors it communicates only a yellowish tinge, but to rectified spirit a fine deep red: a small quantity of an extract made with this menstruum tinges a large one of fresh spirit of the same elegant colour; though it does not, like most other resinous bodies, dissolve in expressed oils, or communicate its colour to them: of distilled oils, there are some, as that of lavender, which receive a red tincture both from the wood itself and from the resinous extract, but the greater number does not.

Geoffroy and others take notice that the brazil woods are sometimes substituted to red faunders, and the college of Brussels doubts whether all that is sold among them for faunders is not really a wood of that kind. According to the account which they have given of their red faunders, it is plainly the brazil wood of the dyers; the distinguishing character of which is, that it imparts its colour to common water. Of the
same

same kind also is the wood examined by Cartheuser under the name of red faunders, the watery infusion and extract of which were both of a dark red.

S A N T O N I C U M.

SANTONICUM SEMEN Pharm. Edinb. *Semen cinæ, semen sanctum, semen contra, sementina.* WORMSEED: a small light oval seed; composed as it were of a number of thin membranous coats; of a yellowish-greenish colour with a cast of brown; easily friable, by rubbing between the fingers, into a fine chaffy kind of substance. The seeds have commonly mixed with them a considerable quantity of this chaffy matter, and small bits of stalks and leaves. They are brought from the Levant, and supposed to be the produce of a species of *artemisia*, resembling in its general appearance our fine-leaved mugwort, called by Linnæus *artemisia foliis caulinis linearibus pinnato-multifidis, ramis indivisis, spicis secundis reflexis.*

THESE seeds have a moderately strong, not agreeable smell, somewhat of the wormwood kind; and a very bitter subacid taste. They have been chiefly recommended as anthelmintics; and commonly taken, in this intention, either along with melasses, or candied with sugar. They might be used also for other purposes; as they appear (at least the specimens which I examined) to be a not inelegant strong bitter. They give out their virtue both to water and spirit, together with a brownish hue, which in the watery tincture has an admixture of reddish, in the spirituous of yellow: the spirituous is less ungrateful in taste, and discovers less also of the ill smell of the santonicum, than the watery infusion. In evaporation, water carries off greatest part of the disagreeable flavour of the seeds, the inspissated extract being little other than simply bitter. An extract made by rectified spirit retains a considerable share of the flavour: this extract appears to be the most eligible preparation of the santonicum for the purposes of an anthelmintic; and the watery extract, or a tincture drawn from it, for the more general intentions of bitter medicines.

S A P O.

S O A P: a composition of oils or fats with alkaline salts, incorporated so as to dissolve together in water into a milky semi transparent liquid.

M A T E R I A M E D I C A .

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I. SAPO DURUS. Hard soap. The finest hard soap is prepared with fresh-drawn oil of almonds, by digesting it with thrice its measure of the soap-leys formerly described (page 483) in such a heat that they may just simmer. In a few hours they unite into a turbid fluid, which, on being boiled a little, becomes more transparent, and ropy, so that if a little be suffered to cool, it will concrete like gelly. Some sea salt is now thrown in, till the boiling liquor loses its ropiness; and the coction continued till, on receiving some drops upon a tile, the soap is found to coagulate and the water to freely separate from it. The fire being then removed, the soap rises gradually to the surface; from whence it is taken off before it grows cold, and put into a wooden mould, or frame, with a cloth bottom: being afterwards separated from the mould, it is set by till it has acquired a due consistence *. After the same manner a hard soap is made with oil-olive, which should be of the finest kind, that the soap may prove as little ungrateful as possible either to the palate or stomach †. By the same or similar processes this commodity is prepared for common uses in the way of trade. The finest of the common soaps is that called Spanish or Castile soap ‡, which is made with oil-olive.

* Sapo amygdalinus P. L.

† Sapo ex oleo olivarium P. L.

‡ Sapo durus P. L. mat. med. Sapo albus hispanus P. Ed. mat. med.

Hard soap, triturated with vegetable resins and thick balsams, incorporates with them into a compound soluble, like the soap itself, in watery liquors: hence it proves an useful ingredient in resinous pills, which of themselves are apt to pass entire through the intestines, but by the admixture of soap become dissoluble in the stomach. It renders unctuous and thick mucous animal matters dissoluble in like manner in aqueous fluids, and hence may be presumed to act as a menstruum for these kinds of substances in the body, that is to attenuate viscid juices and resolve obstructions: such, in effect, are the virtues which it appears to exert in cachectic, hydropic, and icteric cases, in which last, particularly, its aperient and resolvent powers have been often experienced. Solutions of it have been found likewise to dissolve certain animal concretions of the harder kind, as the filaments which are sometimes seen floating in the urine of rheumatic and arthritic persons, the matter secreted in gouty joints, and the more compact urinary calculus: on these substances (at least on the latter) though soap of itself acts more languidly than lime-water, yet when joined to that menstruum it remarkably increases its activity, the dissolving power of a composition of the two being, according to Dr. Whytt's experiments, considerably greater than that of the soap and lime-water unmixed: of the good effects of these medicines in calculous cases there

there are several instances; but what their effects may be in gouty and rheumatic ones, is not yet well known.

The usual dose of soap, as an aperient, is half a dram or a dram: as a lithontriptic, half an ounce, or an ounce, or more, are taken in a day at proper intervals. It is given in the form of a bolus or pills, or made into an electary with some grateful syrup as that of orange peel, or dissolved in milk or other liquids.

In watery liquors it dissolves only imperfectly, the solution being always turbid. Rectified spirit, though it has no action on the alkaline salt or oil separately, dissolves the soap into a limpid liquor. Proof spirit, free from acidity, dissolves it as perfectly, and in larger quantity; rectified spirit not taking up one tenth its own weight, but proof spirit one third or more. The spirituous solutions bear to be largely diluted with pure water, without suffering any turbidness or separation of their parts: but on the addition of any acid, or of any combination of acids with earthy or metallic bodies, as the *sal catharticus amarus*, &c. the soap is resolved into its constituent ingredients; its alkaline salt being absorbed by the acid, and the oil rising to the surface. The oil, thus extricated from soap by acids, dissolves, like essential oils, in rectified spirit.

Soap is employed externally for discussing rheumatic pains, arthritic tumours, the humours stagnating after sprains, &c. Some pretend that the indurated tophaceous concretions in arthritic joints have been resolved by the external use of soapy cataplasms. Several compositions for external purposes are prepared in the shops. One part of Spanish soap, shaved or cut in thin slices, is stirred into six parts of common plaster melted over the fire, and the mixture boiled till it acquires the consistence of a plaster; which is formed into rolls whilst hot, the soap disposing it to grow brittle as it cools*: some endeavour to promote the resolvent virtue of the soap by using, instead of the common plaster, a more compounded one in which turpentine, galbanum, and ammoniacum are ingredients†: but soap acts to much better advantage in the form of a cataplasm or liniment than in the stiff one of a plaster. The officinal saponaceous liniments are made, by digesting three ounces of Spanish soap in a pint of spirit of rosemary till the spirit is saturated, and dissolving in this solution an ounce of camphor‡: or by digesting two ounces and a half of soap in a pint of rectified spirit of wine, and afterwards adding half an ounce of camphor, a dram of oil of rosemary, and a dram of oil of origanum§. Sometimes opium is joined, by which the compound is supposed to be rendered

Emplastrum
* e sapone
Ph. Lond.

† saponaceum
Ph. Edinb.

‡ Linimentum
saponaceum
Ph. Lond.

§ Balsam. saponaceum, vulg.
oppode' doch
Ph. Edinb.

rendered more effectual for allaying violent pains: two ounces of soap, and half an ounce of crude opium, are digested, in a gentle sand-heat, for three days, with eighteen ounces of rectified spirit of wine; and six drams of camphor and one dram of oil of rosemary added to the strained liquor *. This last composition is given also internally, in nervous colics, jaundices, &c.

* Bals. anod.
vulg. batean.
Ph. Ed.

2. SAPO MOLLIS. Soft soap. The common soft soap † used about London, generally of a greenish hue with some white lumps, is prepared chiefly with tallow: a blackish sort ‡ more common in some other places, is said to be made with whale oil. Both kinds are considerably more acrid than the hard soaps, and are employed only for some external purposes: a mixture of equal parts of our common soft soap and quicklime is used as a mild caustic ||.

† Sapo mollis
Ph. Lond.

‡ Sapo niger,
melanosmeg-
ma Ph. Ed.

|| Caust. com.
mitius P. L.

3. SAPO VOLATILIS. Volatile soap. Of this there are three kinds: one composed of fixt alkalies and volatile oils; another, of volatile alkalies, and oils of the grosser or more fixt kind; and the third in which both the alkali and the oil are volatile.

Fixt alkalies are very difficultly made to unite with distilled oils. The most commodious method of obtaining the combination appears to be, by throwing the salt red hot into a heated mortar, immediately reducing it into powder, then pouring on it, while it continues quite hot, by little at a time, an equal quantity or more of the oil, and continuing to grind them together, so as to form a smooth soft mass. Stahl reports that the union may soon be obtained also, by agitating the salt with a small proportion of the oil, and a quantity of phlegmatic vinous spirit; the spirit seeming to serve as a medium for joining them together. This medicine, prepared with oil of turpentine §, was formerly celebrated as a diuretic, in nephritic complaints, and as a corrector of certain vegetables, particularly of opium: its virtues have not been fully determined by experience, nor does the present practice pay any regard to it.

§ Sapo philo-
sophicus, tar-
tareus, &c.

Combinations of volatile alkalies with expressed oils, and with the oily balsamic juices, are obtained more readily. One ounce of spirit of sal ammoniac, and four of oil of almonds, stirred together in a wide-mouthed vial, unite perfectly, in a short time, into a white saponaceous liquid **. A more consistent soapy mass is prepared, by gradually dropping the spirit into equal its weight of Venice turpentine, and stirring them carefully together ††. Both these compositions are very

** Liniment.
volatile P. L.

†† Epithema
volat. P. L.
Emplastrum
volat. P. E.

acrimonious, and are used only externally, as stimulants, in rheumatic and ischiadic pains.

Combinations of volatile alkalies with volatile oils, in a liquid form, have been already mentioned under the head of *sal alkalinus volatilis*: compositions of the same kind may be obtained in a solid state, by mixing the salt with the oil, and subliming them together. It may be observed, that in all these combinations made with volatile salts, though the pungency of the salt is more or less covered, it is never completely sheathed as that of the fixt alkalies is in the hard soaps; and that none of the compositions, in which either the alkali or the oil is volatile, are so perfectly saponaceous as those in which they are both of the more fixt kind.

S A P O N A R I A.

SAPONARIA Pharm. Edinb. Saponaria major lævis C. B.

SOAPWORT or BRUISEWORT: a smooth herb, with plantane-like three-ribbed leaves set in pairs on short broad pedicles; producing, on the tops of the stalks, umbel-like clusters of red, purple, or whitish flowers, cut deeply into five segments nipt at the ends, standing in long cups, followed by pear-shaped capsules full of small seeds: the root is long, slender, spreading to a great distance so as scarce to be extirpated, of a brownish colour on the outside, internally white, with a yellowish fibre in the middle. It grows wild, but not very common, in moist grounds, and flowers in July.

THE roots and leaves of saponaria discover to the taste a kind of glutinous softness or smoothness; accompanied, in the roots, with a sweetishness and slight pungency; in the leaves, with a degree of bitterness and roughness. The smoothness or soapiness, from which the plant received its name, is strongest in the leaves; which, on being agitated with water, raise a slippery froth, and are said to impart a detergent quality approaching to that of solutions of soap itself. This matter is dissolved also by rectified spirit as well as water, and hence appears evidently of a different nature from gummy or mucilaginous substances: on inspissating the solutions, it remains entire in the extracts, and proves stronger in the spirituous extract than in the watery. This plant therefore, among us disregarded, may be presumed to have some considerable medicinal virtues: by the German physicians, the roots are used in venereal maladies, and supposed to be similar, but superiour, to those of sarsaparilla.

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SAPONARIÆ NUCULÆ.

NUCULÆ saponariæ non edules C. B. *Saponariæ sphaerulæ arboris filicifoliæ* J. B. *Baccæ bermudenses* Marloe. SOAP-BERRIES: a spherical fruit, about the size of a cherry; whose cortical part is yellow, glossy, and so transparent, as to shew the spherical black nut, which rattles within, and which includes a white kernel. It is the produce of a small tree, growing in Jamaica and other parts of the West Indies, called by Sir Hans Sloane *prunifera racemosa, folio alato, costa media membranulis utrinque extantibus donata, fructu saponario*.

It is said that this fruit, at least its cortical part, has a very bitter taste, and no smell: that it raises a soapy froth with water, and has similar effects with soap in washing: that it is a medicine of singular and specific virtue in chloroses: and that a tincture or extract are preferable to the berry in substance, from whence it may be presumed that its soapy matter, like that of the saponaria, is dissoluble in spirit. Its medical virtue was first published by Marloe in a letter to Mr. Boyle; but the fruit having been concealed under the fictitious name of Bermudas berries, its use died with the author. That Marloe's Bermudas berries were the same with the soap-berries of America, had been suspected by some, and was confirmed by Dale in examining the Bermudas berries which Marloe had left under that title behind him. They are still, however, unknown, in practice, and in the shops.

SARCOCOLLA.

SARCOCOLLA Pharm. Lond. & Edinb. a concrete gummy-resinous juice, brought from Persia and Arabia, in small, spongy, crumbly, whitish-yellow grains, with a few of a reddish and sometimes of a deep red colour mixed with them: the tears, when entire, are about the size of peas: the whitest tears or fragments are preferred, as being the freshest. The plant which produces this juice, and the place of its production, are unknown.

SARCOCOLLA has a bitterish subacid taste, followed by a nauseous kind of sweetishness. It softens in the mouth, bubbles and catches flame from a candle, dissolves almost wholly in water, and greatest part of it in rectified spirit. Its medical qualities are not well known: it is said, when taken internally, to act as a slow and dangerous purgative; externally, to cleanse and promote the cicatrization of ulcers; dissolved

dissolved in breast-milk, to be an useful collyrium for defluxions on the eyes.

S A R S A P A R I L L A.

SARSAPARILLA Pharm. Lond. & Edinb. *Zarza quibusdam:* the root of a species of bindweed, *smilax aspera peruviana sive sarsaparilla* C. B. *smilax caule aculeato angulato, foliis inermibus retusomucronatis* Linn. *sp.* growing in the Spanish West Indies, and scarcely bearing the winters of our climate without shelter. The root consists of a number of strings, of great length, about the thickness of a goose-quill or thicker, flexible, free from knots, composed of fibres running their whole length, so that they may be stript in pieces from one end to the other. They are covered with a thin, brownish, or yellowish-ash-coloured skin, under which lies a thicker white friable substance, and in the middle runs a woody pith.

THIS root has a farinaceous somewhat bitterish taste, and no smell. To water it communicates a reddish brown, to rectified spirit a yellowish red tincture, but gives no considerable taste to either menstruum. An extract, obtained by inspissating the spirituous tincture, has a weak, somewhat nauseous, balsamic bitterishness, which is followed by a slight but durable pungency: the watery extract is much weaker, and in larger quantity.

Sarsaparilla was first brought into Europe by the Spaniards about the year 1563, with the character of a specific for the cure of the lues venerea, which made its appearance a little before that time. Whatever good effects it might have produced in the warmer climates, it was found to be insufficient in this, inasmuch that many have denied it to have any virtue at all, and supposed that it could do no more, than, by its farinaceous softness, to obtund the force of the gastric fluid, and thus weaken the appetite and digestion. It appears however, from experience, that though greatly unequal to the character which it bore at first, yet, in many cases, strong decoctions of it, drank plentifully and duly continued, are of very considerable service, for promoting perspiration, and what is called sweetening or purifying the blood and humours. In the medical observations published by a society of physicians in London, there are several instances of its efficacy in venereal maladies, as an assistant to mercury, or when mercury had preceded its use: it oftentimes answered, and that speedily, after mercurial unctions, and long continued courses of strong decoctions

coctions of guaiacum, had failed. Dr. Harris says that infants who have received the infection from the nurse, though full of pustules and ulcers and sometimes troubled with nocturnal pains, are cured by sarsaparilla without mercurials: he directs the powder of the root to be mixed with their food.

S A S S A F R A S.

SASSAFRAS *Pb. Lond.* *Sassaparas* *Pb. Edinb.* the root of a large American tree of the bay kind, (*laurus foliis integris trilobisque* *Linn. sp. arbor ex florida ficulneo folio* *C. B.*) brought over in long straight pieces, very light and of a spongy texture, covered with a rough fungous bark, outwardly of an ash-colour, inwardly of the colour of rusty iron.

THIS root has a fragrant smell, and a sweetish, subastringent, aromatic taste: the bark is much stronger than the internal woody part, and the small twigs than the larger pieces. It gives out its virtues, together with a reddish colour, totally to spirit, less perfectly to water: the spirituous tincture smells weakly and tastes strongly, the watery smells stronger and tastes weaker of the root. Distilled with water, it yields a fragrant essential oil *, of a penetrating pungent taste, so ponderous as to sink in water, limpid and colourless when newly distilled, by age growing yellowish and at length of a reddish brown colour: the remaining decoction, inspissated, yields a bitterish subastringent extract. Rectified spirit, distilled from the tincture made in that menstruum, brings over with it nothing considerable: the inspissated extract retains, along with the bitterness and subastringency, nearly all the aromatic matter of the root, though the smell is in great part suppressed in the extract as well as in the tincture.

* *Ol. essential.*
rad. sassaf.
Pb. Lond.
lign. sassaph.
Pb. Edinb.

Sassafras is used as a mild corroborant, diaphoretic, and sweetener, in scorbutic, venereal, cachectic, and catarrhal disorders. For these purposes, both the volatile and the fixt parts, the distilled oil and the watery extract, have been given with success: the spirituous tincture or extract, which contain both, appear to be the most elegant preparations. Infusions made in water, from the cortical or the woody part rasped or shaved, are commonly drank as tea: in some constitutions, these liquors, by their fragrance, are apt, on first taking them, to affect the head; an inconvenience, which is generally got the better of on continuing their use for a little time, and which neither the watery nor spirituous extracts are at all subject to.

S A T U R E I A.

M A T E R I A M E D I C A.

S A T U R E I A.

SATUREIA Pharm. Edinb. *Satureia hortensis* five *cunila sativa plinii* C. B. *Thymbra.* SUMMER SAVOURY: a low, shrubby, somewhat hairy plant: with small oblong narrow leaves, narrowest at the bottom, set in pairs; and small clusters, in the bosoms of the leaves, of pale purplish-labiated flowers, whose upper lip is nipt at the extremity, the lower cut into three segments. It grows wild in some of the southern parts of Europe, and is sown annually in our culinary gardens.

THE leaves of savoury are a warm aromatic; of a grateful smell, like that of thyme but milder; and a penetrating pungent taste. To rectified spirit, they give out the whole of their active matter, together with a dark green tincture: water receives from them a reddish brown colour, and a considerable smell, but very little of their taste. In distillation with water, they yield a small quantity of a fragrant essential oil, very pungent, and of great subtilty and volatility: the remaining decoction, inspissated, leaves a weakly bitterish, subastringent, ungrateful extract. Rectified spirit elevates in distillation much less than might be expected from the remarkable volatility of the oil: the extract smells agreeably, though weakly, of the savoury, and has a very warm, pungent, aromatic taste.

S A T Y R I O N.

SATYRION MAS Pharm. Edinb. *Orchis morio mas foliis maculatis* C. B. *Cynosorchis* & *testiculus caninus quibusdam.*

ORCHIS OR DOGSTONES: a plant with six or seven long smooth narrow leaves, variegated with dark coloured streaks or spots, issuing from the root; and one or two embracing the stalk, which is single, roundish, and striated: on its top appears a long loose spike of irregular, naked, purplish red flowers, consisting each of six petala; one of which is large, cut into three sections, hanging downwards; the others smaller, forming a kind of hood above it, with a tail behind: the root consists of two roundish whitish tubercles, about the size of nutmegs, one plump and juicy, the other fungous and somewhat shrivelled, with a few large fibres at top. It is perennial, grows wild in shady grounds and moist meadows, and flowers in the beginning of May or sooner.

THE plump roots or bulbs (the only part directed for medicinal use) have a faint somewhat unpleasant smell, and a viscid sweetish taste.

They

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They abound with a glutinous slimy juice, in virtue of which they have been found serviceable, like althea root and other mucilaginous vegetables, in a thin acrid state of the humours and erosions of the intestines. They have been celebrated also for analeptic and aphrodisiac virtues, to which they appear to have little claim.

The substance brought from the eastern countries under the names of *Salep**, *falleb*, and *serapias*, and recommended, like our orchis root, in bilious dysenteries, defluxions on the breast, and as a restorative, appears to be no other than the prepared roots of some plants of the orchis kind, of which different species are said to be taken indiscriminately. The salep comes over in oval pieces, of a yellowish white colour, somewhat clear and pellucid, very hard and almost horny, of little or no smell, in taste like gum tragacanth. The common orchis root, boiled in water, freed from the skin, and afterwards suspended in the air to dry, gains exactly the same appearance: the roots thus prepared do not grow moist or mouldy in wet weather, which those, that have been barely dried, are very liable to do: reduced into powder, they soften or dissolve as it were in boiling water into a kind of mucilage; which may be diluted, for use, with a larger quantity of water, or with milk.

* *Pb. Ed.*

S A X I F R A G A.

SAXIFRAGA ALBA Pharm. Edinb. *Saxifraga rotundifolia alba* C. B. White saxifrage: a plant with kidney-shaped crenated yellowish-green leaves, and round slender purplish branched stalks, on the tops of which grow short loose spikes of pentapetalous white flowers, followed each by a two-horned capsule full of small seeds: the root is composed of small fibres, with a number of little tubercles among them, about the size of pepper-corns, containing, under a chaffy covering, irregular whitish bodies somewhat brittle like the kernels of fruits. It is perennial, grows wild in sandy pasture-grounds, and flowers in May: the leaves and stalks wither soon after flowering, and by degrees the tubercles of the roots also disappear.

THE leaves of this plant, of little or no smell, and of a weak unpleasant taste; and the tubercles of the roots, improperly called seeds, of no smell, and in taste sweetish with a very slight acrimony; are recommended as aperients and diuretics, in obstructions of the menses, stranguries, and nephritic cases. Among us, they have long been disused, and unknown in the shops; a more common plant, of the same

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same name, but of a different genus, and of more activity, having generally supplied their place.

S A X I F R A G A V U L G A R I S.

SAXIFRAGA vulgaris five *anglica*, *Hippomarathrum anglicum*, *Fœniculum erraticum*: *Seseli pratense*, *silaus forte plinio* C. B. *Angelica pratensis apii folio* Tourn. ENGLISH OR MEADOW SAXIFRAGE: an

umbelliferous plant, with winged leaves subdivided into oblong narrow sharp-pointed segments: the flowers are of a yellowish white colour, the umbel naked, but its subdivisions have several little leaves at their origin; the seeds are short, brownish or reddish, plano-convex, with three deep furrows so as to appear winged: the root is long, about the thickness of the finger, brownish or blackish on the outside, and white within. It is perennial, common in meadows and pasture grounds, and flowers in June.

THE roots, leaves, and seeds of this plant have been commended as aperients, diuretics, and carminatives; and appear, from their aromatic smell, and moderately warm pungent bitterish taste, to have a better claim to these virtues than the preceding saxifrage. They are rarely or never used.

S C A M M O N I U M.

SCAMMONIUM Pharm. Lond. & Edinb. *Diagrydium*. SCAMMONY: the concrete gummy-resinous juice of the roots of a species of convolvulus (*convolvulus foliis sagittatis postice truncatis, pedunculis bifloris* Linn. spec. pl.) distinguished by the leaves being shaped like an arrow-head and having two semicircular notches at the bottom on each side of the footstalk, the flowers being of a pale yellowish colour and standing two on one stem: it is a native of Syria, and has been lately found to bear the colds of our own climate. The scammony is extracted in Syria, by baring the upper part of the root in June, cutting off the top obliquely, and placing a shell or some other receptacle at the depending part to receive the milky juice, which on standing concretes into solid masses.

The best scammony is brought from Aleppo, in light spongy masses, easily friable, glossy, of different shades of colour from a grey or yellowish white almost to black, when reduced to powder of a brownish white colour. An inferiour sort comes from Smyrna, in compact hard
ponderous

ponderous pieces, full of sand and other impurities. Such should be chosen as crumbles the most easily betwixt the fingers, grows instantly white on the contact of watery moisture, and leaves little or no feces on being dissolved. Its colour in the mass affords no criterion of its purity or goodness.

SCAMMONY has a slight unpleasant smell, and a weak bitterish sub-acrid taste. It consists of about equal parts of resinous and gummy matter, and hence dissolves almost totally in a mixture of equal parts of rectified spirit and water, that is in proof spirit. Rectified spirit takes up the resin, with some part of the gum: if the tincture be inspissated a little, and then mixed with water, the gum continues dissolved, and the pure resin * precipitates. By trituration with water, or by bare maceration, the scammony is resolved into a milky liquor verging to greenish; which on standing deposits some portion of the resin, but retains its milkiness.

* Resina
scammonii
Ph. Ed.

This gummy-resin is one of the strong stimulating cathartics; more kindly in operation, and hence in more general use, than most of the other substances of that class: the dose is from two or three grains to twelve. Sundry ill qualities have been ascribed to it, which it is not found to possess; and sundry correctors have been devised, which it does not appear to want. In cold indolent serous habits, scammony itself procures generally a plentiful evacuation with great ease and safety: in inflammatory cases, and the more irritable dispositions, it is indeed dangerous; but no otherwise so than the rest of the strong purgatives; and no otherwise than by virtue of that power on which its efficacy in the opposite circumstances depends.

By the smallness of the dose of this medicine, its easy solubility, and its having little taste, it is fitted for being commodiously taken in almost any form. It is made in the shops into a powder, with the addition of three fourths its weight of calcined hartshorn to divide and disunite it*; or with equal its weight of diaphoretic antimony and the same quantity of crystals of tartar †. A scammoniate electary is composed of one ounce of scammony and four of honey, aromatised with half an ounce of cloves, half an ounce of ginger, and a scruple of the essential oil of caraway-seeds; of which composition, one dram and a half contain fifteen grains of the scammony ‡. Agreeable purging troches, for those who are not easily prevailed upon to take medicines of this kind in other forms, are prepared, by grinding together three drams of scammony, four drams of crystals of tartar, four drops of oil of cinnamon, and eight ounces of fine sugar, and moistening the mixture with

* Pulvis e
scammonio
comp. P. L.

† Pulv. cornachini P. Ed.
Pulv. e tribus,
Pulv. comitis
warwicensis,
Cerberus tri-
ceps, quorund.

‡ Electar. e
scammonio
P. L.

* Morfuli
purgantes
Ph. Branden-
burg.

so much rose-water as will render it of a due consistence for being formed: each tablet is made to weigh about a dram *, and consequently contains two grains and a half of scammony. One of the most elegant liquid preparations is a solution of the scammony in a strong infusion or decoction of liquorice, poured off from the feces, and aromatised with some grateful distilled water or aromatic tincture; as those of cardamom seeds.

The dried root of the plant, as well as its juice, may perhaps deserve some notice. Dr. Russel, to whom the public is obliged for an accurate history of this drug, relates that a decoction of half an ounce of the root procured five stools, without gripes, sickness, or any manner of uneasiness, and, on repeating the trial several times, had the same effect: and that the decoctions are entirely without smell, and in taste rather sweetish than disagreeable. Neither the stalks, leaves, flowers, or seeds, seemed to have any purgative virtue (a).

S C I L L A.

SCILLA Pharm. Lond. & Edinb. Scilla radice alba, & scilla vulgaris radice rubra C. B. Ornithogalum maritimum Tourn. SQUILL or SEA-ONION: a plant with a large bulbous onion-like root; from which rise, first a naked stalk bearing several hexapetalous white flowers, and afterwards large green lily-like leaves with a remarkable rib in the middle of each. It grows spontaneously on sandy shores in Spain and in the Levant, from whence we are annually supplied with the roots. They should be chosen large, plump, fresh, and full of a clammy juice: some are of a reddish colour and others white, but no difference is observed in the qualities of the two sorts, and hence the college allows both to be taken promiscuously.

THIS root is to the taste very nauseous, intensely bitter, and acrimonious: much handled, it exulcerates the skin. Taken internally, it acts as a powerful attenuant and aperient: in doses of a few grains it promotes expectoration and urine: in somewhat larger ones, it proves emetic and sometimes purgative. It is one of the most certain diuretics in hydropic cases, and expectorants in asthmatic ones, where the lungs or stomach are oppressed by tenacious phlegm, or injured by the imprudent use of opiates.

This medicine, on account of its ungrateful taste, is most commodiously taken in the form of pills; into which the fresh root may be reduced,

(a) *Medical observations and inquiries, by a society of physicians in London.*

reduced, by beating it with an equal quantity of ammoniacum, and then adding the same quantity of some warm spice, as lesser cardamom-seeds in powder: if the mass should prove too stiff, it is softened with a little balsam of copaiba*. In whatever form squills are given, unless when designed to act as an emetic, the addition of some grateful aromatic material is of use, to prevent the nausea which of themselves they are very apt, even in small doses, to occasion.

* Pil. scilliticæ P. E.

The fresh root loses in drying about four fifths of its weight, without any considerable loss of its taste or virtue; the vapour which exhales appearing to be little other than merely aqueous. Hence four grains, which are the mean dose of the dry root in powder, are equivalent to near a scruple of the fresh squill. The most convenient way of drying it is, after peeling off the outer skin, to cut the roots transversely into thin slices (not to separate the coats as has been usually directed) and expose them to a gentle warmth†.

† Scilla exsiccata P. L.

The ancients, in order to abate the acrimony of the squill for certain purposes, enclosed it entire (after separating the skin, and the fibres at the bottom with the hard part from which they issue) in a paste made of flour and water, and then baked it in an oven, till the paste became dry, and the squill soft and tender throughout‡. The squill, so prepared, was beaten with two thirds its weight of flour, the mixture formed into troches, and dried with a gentle heat||. These troches were supposed to be alexipharmac, and in this light were made an ingredient in theriaca, for which purpose they are still retained.

‡ Scilla cocta Pb. Lond.

|| Troch. e scilla Pb. Lond.

Water, wine, proof spirit, and rectified spirit, extract the virtues both of the fresh and the dry root. Nothing rises in distillation with any of these menstrua, the entire bitterness and pungency of the squill remaining concentrated in the inspissated extracts: the spirituous extract is in smaller quantity than the watery, and of a proportionably stronger almost fiery taste.

Alkalies considerably abate both the bitterness and acrimony of the squill: vegetable acids make little alteration in either, though the admixture of the acid taste renders that of the squill more supportable. These acids extract its virtue equally with watery or spirituous menstrua; and, as an expectorant in disorders of the breast, excellently coincide with it. The college of London directs an acetous tincture to be prepared, by macerating a pound of the dry roots in six pints of vinegar, with a gentle heat: to the liquor, pressed out, and after settling poured off from the feces, one twelfth its quantity of proof spirit is added, to prevent its growing soon feculent. The college of Edin-

Acetum scilliticum.

Oxym. scillit.
 * Pb. Lond.
 † Pb. Ed.

burgh orders fresh squills, cut in thin slices, to be taken in the same quantity as the dry in the above prescription, and the maceration to be continued, in the sun's heat, for forty days. A scillitic oxymel is obtained by boiling a quart of the acetous tincture with three* or four † pounds of clarified honey, till the mixture acquires the consistence of a syrup. These preparations are used, as expectorants, in doses of one, two, or three drams, along with cinnamon or some other grateful water: where the first passages are overloaded with viscid phlegm, an ounce or more is given at once, to procure a more speedy and effectual evacuation by vomit.

S C I N C U S.

SCINCUS Pharm. Lond. Scincus seu crocodilus terrestris Raii.
 THE SKINK: a small amphibious animal, of the lizard kind, clothed with greyish scales, caught about the Nile, &c. and thence brought, dried, to us. The flesh of this animal, particularly of the belly, has been said to be diuretic, alexipharmac, aphrodisiac, and useful in leprous disorders. Whatever virtues it may have when used fresh, as food, it is not expected to be of any importance as it comes to us, and serves only to increase the number of the articles of which mithridate is composed.

S C O R D I U M.

SCORDIUM Pharm. Lond. & Edinb. C. B. Chamædryas palustris & trissago palustris quibusdam. WATER-GERMANDER: a trailing plant, with oblong, oval, indented, soft, hoary leaves, set in pairs, without pedicles: in their bosoms issue purplish monopetalous flowers, not above four or five together, each cut into five segments and followed by four small seeds lodged in the cup. It is sometimes found wild in watery places, but the shops are supplied chiefly from gardens: it is perennial, and flowers in June.

THE leaves of scordium, rubbed betwixt the fingers, yield a moderately strong smell, somewhat of the garlick kind: to the taste they discover a considerable bitterness and some pungency; but the astringent power, which some ascribe to them, could not be distinguished, either by the taste, or by solution of chalybeate vitriol. They are recommended as alexipharmacs and corroborants, in malignant and putrid disorders, and in laxities of the intestines: they enter several official

cinal compositions in these intentions, and are sometimes employed externally in antiseptic cataplasms and fomentations.

On keeping the dry herb for some months, its smell is dissipated; and the bitterness, thus divested of the flavouring matter, proves considerably less ungrateful than at first. The leaves, moderately and newly dried, give out their smell and taste both to water and to rectified spirit; and tinge the former of a brownish, the latter of a deep green colour. In distillation, their peculiar flavour arises with water; but the impregnation of the distilled fluid is not strong, nor could any essential oil be obtained on submitting to the operation several pounds of the herb: the remaining decoction, inspissated, leaves a very bitter mucilaginous extract. Rectified spirit brings over little or nothing: the inspissated extract partakes in a considerable degree of the flavour of the scordium, and proves in bitterness also far stronger than the watery.

S C O R Z O N E R A.

S C O R Z O N E R A Pharm. Edinb. *Scorzonera latifolia sinuata* C. B. *Viperaria* & *serpentaria hispanica quibusdam*. VIPERS-

GRASS: a plant with large sharp-pointed leaves, slightly sinuated about the edges, having a large prominent rib in the middle, joined to the stalks without pedicles: on the tops of the branches grow yellow flosculous flowers, set in scaly cups, followed by oblong roundish, striated seeds winged with down: the root is long, single, from the size of a goose-quill to that of the little finger, of a dark colour on the outside and white within. It is perennial, a native of Spain, and common in our culinary gardens.

THE roots of scorzonera have been employed medicinally as alexipharmacs, and in hypochondriacal disorders and obstructions of the viscera; but at present are more properly looked upon as alimentary articles, in general salubrious, and moderately nutritious. They abound with a milky juice, of a soft sweetish taste, but which in drying contracts a slight bitterness. Extracts made from them by water are considerably sweet and mucilaginous: extracts made by rectified spirit have a less degree of sweetness, accompanied with a slight grateful warmth. In Cartheuser's experiments, the spirituous extract amounted to one third the weight of the root, and the watery to above one half: as his watery extract, though in larger quantity than the spirituous, was nevertheless, like mine, sweeter, it should seem that the sweet matter

matter of scorzonera is somewhat different, in regard to its solubility, from that of most of the other vegetable sweets that have been examined, the spirituous extracts having generally much the greatest sweetness.

SCROPHULARIA.

FIGWORT: a plant with square stalks; the leaves set in pairs, at distances, in opposite directions; the branches terminated by loose spikes of irregular, purple, helmet-shaped flowers; each of which is followed by a roundish pointed capsule, containing numerous small seeds in two cells. It is perennial.

1. *SCROPHULARIA VULGARIS Pharm. Edinb. Scrophularia nodosa fœtida C. B. Millemorbia quibusdam.* Common figwort or kernelwort: with the leaves somewhat heart-shaped and serrated about the edges; the roots long, thick, and full of knots and tubercles. It grows wild in woods and hedges, and flowers in July.

The roots and leaves of this plant have been celebrated, both internally and externally, against inflammations, the piles, scrophulous tumours, and old ulcers. Their sensible qualities are, a rank smell somewhat like that of elder leaves but stronger, and a disagreeable bitterish taste. The anodyne and anti-inflammatory virtues, which they are reckoned to exert in external applications, are attributed in great part to the odorous matter, which is supposed to be somewhat of the narcotic kind: the root, which has less of this smell than the leaves, has been generally preferred for internal use. At present, they are both, among us, disregarded.

2. *SCROPHULARIA AQUATICA MAJOR seu betonica aquatica Ph. Edinb. Scrophularia aquatica major C. B.* Greater water figwort: with the leaves oblong, nearly oval, crenated about the edges; the stalks winged at the angles; the root composed of numerous white strings issuing from one head. It grows in watery places, and flowers in July.

The leaves of this species are recommended for the same purposes as those of the preceding; to which they have by some been preferred: in taste and smell, they are similar, but weaker. Mr. Marchant reports, in the memoirs of the French academy, that this plant is the same with the *iquetaia* of the Brazilians, celebrated as a specific corrector of the ill flavour of senna: on his authority, the Edinburgh college, in their

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their common infusion of that drug, directed two thirds its weight of the water figwort leaves to be joined; but as they have now discarded this ingredient, we may presume that it was not found to be of much use.

S E D U M.

SEDUM MAJUS seu sempervivum majus Pb. Ed. Sedum majus vulgare C. B. Aizoon & barba jovis quibusdam. HOUSE-

LEEK or SENGREEN: a plant with numerous, thick, stiff, fleshy, pointed leaves, lying over one another in form of a roundish cluster; in the middle of which rises a stiff stalk, covered with smaller leaves, divided at top into several branches, bearing purplish flowers with twelve petals, which are followed by the same number of capsules full of small seeds. It is perennial and evergreen, grows on old walls and the tops of houses, and flowers in June.

THE leaves of houseleek, of no remarkable smell, discover to the taste a mild subacid austerity: their expressed juice, of a pale yellowish hue when filtered, yields on inspissation a deep yellow, tenacious, mucilaginous mass, considerably acidulous and acerb: from whence it may be presumed, that this herb has some claim to the refrigerant and restraining virtues that have been ascribed to it. It is observable that the filtered juice, on the addition of an equal quantity of rectified spirit of wine, forms a light white coagulum, like creme or fine pomatum, of a weak but penetrating taste: this, freed from the fluid part, and exposed to the air, almost totally exhales. From this experiment it is concluded by some that houseleek contains a volatile alkaline salt (a): but the juice coagulates in the same manner with volatile alkalies themselves, as also with fixt alkalies: acids produce no coagulation.

S E L E N I T E S.

SELENITES: an earthy or stony concrete; not dissoluble in acids; calcining in a gentle heat into a soft powder *, which forms a * Plaster of Paris. tenacious paste with water: composed of calcareous earth and vitriolic acid.

THE vitriolic acid, poured on crude calcareous earths, (as chalk, limestone, marble,) does not dissolve or unite with them, at least in any considerable degree: but if the earth be previously dissolved in any other

(a) Burghart, *Medicorum Silesiacorum satyræ*, specim. IV. obs. ii. p. 11.

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other acid, the vitriolic acid, superadded to this solution, absorbs the dissolved earth, and forms with it a concrete no longer soluble, which of course renders the liquor milky, and on standing settles to the bottom, either in a powdery or crystalline form, according as the liquor was less or more diluted with water. Native mineral concretes of this kind, when pellucid and crystalline, are called *selenites*; when composed of a number of thin transparent coats or leaves, *lapis specularis*, *muscovy glass*, or *isnglass*; when in large stony masses, of a granulated texture, *gypsum*; and when the masses are of a fibrous texture, *striated gypsum* or *English talk*. All these substances are made to discover their composition, by strongly calcining them in contact with the burning fuel: the inflammable principle of the coals absorbs their vitriolic acid, from which combination is produced common sulphur, greatest part of which exhales; and the remaining calcined earth, thus deprived of the acid, is found to be a perfect quicklime.

This concrete, in its different forms, has been recommended as an astringent in fluxes and hemorrhagies; a virtue which agrees but ill with its indissolubility and want of taste. It is often met with in the residua of waters, both of the common and medicinal springs.

S E N A.

SENA Pharm. Lond. Senna alexandrina Pb. Edinb. Folium orientale. SENA: the leaf of an annual, woody, pod-bearing plant (*senna alexandrina sive foliis acutis* C. B. *cassia foliolis trijugatis quadrijugatisque* Linn. *sp. pl.*) brought dry from Alexandria in Egypt. It is of a lively yellowish green colour, an oblong somewhat oval figure, sharp-pointed at the ends, about a quarter of an inch broad, and not a full inch in length. Some inferior sorts are brought from Tripoli and other places: these may be distinguished, by their being either narrower, longer, and sharper pointed; or larger, broader, and round pointed, with small prominent veins; or large, obtuse, and of a fresh green colour without any yellow cast.

SENA is a moderately strong, and in general a safe cathartic: Geoffroy specifies hemorrhagies, inflammations of all kinds, and disorders of the breast, as being almost the only exceptions to its use. The dose in substance is from a scruple to a dram; in infusion, from one dram to three or four. It gives out its virtue both to watery and spirituous menstua: to water and proof spirit it communicates a brownish

brownish colour, more or less deep according to the proportions; to rectified spirit, a fine green. There are two inconveniences often complained of in this medicine, its being liable, in some constitutions, to occasion gripes; and its being accompanied with an ill flavour, which is apt to nauseate both the stomach and the palate. The first may be obviated by dilution, the latter by aromatic and other additions: several compositions of this kind are prepared in the shops, both sufficiently palatable, and which operate with ease and mildness.

Six drams of tamarinds and two of crystals of tartar are boiled in a pint and a half of water till half a pint is wasted, and the strained liquor poured boiling hot upon one, two or three drams of senna: after maceration for four hours, the strained infusion is sweetened with an ounce of syrup of violets, and flavoured with half an ounce of simple cinnamon water *. Three drams of senna are infused in a quarter of a pint of boiling water, for four hours, or till the liquor has grown cold; with the addition of a scruple of ginger †; or with half a dram of lesser cardamom seeds husked, and three fourths of a dram of crystals of tartar, which last are previously boiled in the water till dissolved ‡; or with two drams of fresh lemon peel, and two drams by measure of lemon juice §. The committee of the London college observe, that this last is the most agreeable form, they have been able to contrive, for the exhibition of senna to those who are more than ordinarily offended with its flavour; and that though acids are generally supposed to impede the action of water on vegetables, yet the infusions of senna made with acids are found, from experience, not to fail in their intention. Indeed if the acids really weaken the dissolving power of the water, which it is probable they do in some degree, they should seem to be, on this account, rather of advantage than otherwise; for, as the committee further observe, in a medicine very nauseous to many, it is of primary consequence that only the lighter and least disgustful parts be extracted. On this principle, some macerate the senna for a night in cold water, which becomes sufficiently impregnated with its purgative virtue, without extracting so much, as boiling water does, of the nauseous matter: if the liquor, poured off from the senna, be boiled a little by itself, great part of its ill flavour will be dissipated; and the remains of its offensiveness may be effectually covered by infusing in it some bohea tea. If the coction is continued for any considerable time, the purgative virtue of the senna will be diminished; for the inspissated watery extracts are scarcely found to purge so much, as one fourth of

* Decoctum
tamarindorum
cum senna P.E.

† Infusi sennæ
uncie quatuor
Ph. Ed.

‡ Infusi sennæ
commune
Ph. Lond.

§ Infusi sennæ
limoniatum
Ph. Lond.

the infusion or decoction they were made from, or so much as an equal weight of the leaves in substance.

* Tinctura
senæ P. L.
† Tinct. senæ
comp. vulgo
elixir salutis
Ph. Ed.

The officinal spirituous tinctures of sena are prepared by digestion for some days, with * or without † heat, in proof spirit. The proportions, in the London pharmacopœia, are, one dram of sena to an ounce and a quarter of the spirit, to which are added a dram and a quarter of stoned raisins, seven grains and a half of caraway seeds, and two grains and a half of lesser cardamom seeds husked †: in the Edinburgh, half a dram of sena to an ounce and a half of the spirit, with the addition of fifteen grains of rhubarb, seven grains and a half of shavings of guaiacum, the same quantity of sweet fennel seeds, the same of juniper berries, and forty-five grains of white sugar candy in powder, which last is directed to be dissolved in the tincture after straining it from the other ingredients *. Both these tinctures are agreeable and useful carminative purgatives, especially to those who have accustomed themselves to spirituous liquors: the ill flavour of the sena is completely covered, and its offending the stomach or producing gripes prevented, by the warm seeds and the sweets. The guaiacum, in the second prescription, promotes the operation of the sena; for two drams of sena, infused in half a pint of a decoction of guaiacum, purge as briskly as three drams infused in plain water, and with greater ease to the patient. Several compositions of this kind have been offered to the publick, under the name of *Daffy's elixir*: the two above are inferiour to none, and superiour to most of them.

S E R P E N T A R I A.

SERPENTARIA VIRGINIANA Pharm. Lond. & Edinb.
Serpentaria virginiana & *viperina* & *colubrina virginiana* Ph. Paris.
VIRGINIAN SNAKEROOT: the root of a species of *aristolochia* growing in Virginia and Carolina, *aristolochia foliis cordatis oblongis planis, caulibus infirmis flexuosis teretibus, floribus solitariis* Linn. spec. plant. The root is small, light, bushy, composed of a number of strings or fibres issuing from one head and matted together, of a brownish colour on the outside, and paler or yellowish within.

SNAKEROOT has an aromatic smell, approaching to that of valerian but more agreeable, and a warm bitterish pungent taste, which is not easily concealed or overpowered by a large admixture of other materials. It gives out its active matter both to water and rectified spirit,

spirit, and tinges the former of a deep brown, the latter of an orange colour. Greatest part of its smell and flavour is carried off in evaporation or distillation by both menstrua: along with water there arises, if the quantity of the root submitted to the operation be large, a small portion of a pale coloured essential oil, of a considerable smell, but no very strong taste, greatest part of the camphorated pungency, as well as bitterishness of the root, remaining in the inspissated extract. The spirituous extract is stronger than the watery; not so much from its having lost less in the evaporation, as from its containing the active parts of the root concentrated into a smaller volume; its quantity amounting only to about one half of that of the other.

This root is a warm diaphoretic and diuretic. It is reckoned one of the principal medicines of the alexipharmac kind; and as such is in general use, in low malignant fevers and epidemic diseases, for supporting the *vis vitæ*, raising the pulse, promoting a diaphoresis, and correcting a putrid disposition of the humours. It is given, in substance, from a few grains to a scruple or half a dram; in decoction or infusion, to a dram and upwards. Tinctures of it are prepared in the shops, by macerating two * or three † ounces of the root in a quart of proof spirit †, or of a spirituous alexeterial water mixed with one sixth its quantity of distilled vinegar *, which last ingredient is an excellent addition to these kinds of medicines in acute diseases.

Tinctura
serpentariæ
* *Pb. Ed.*
† *Pb Lond.*

S E S E L I.

SESELI Pb. Lond. Siler montanum sive seseli vulgare Pb. Ed. Ligusticum quod seseli officinarum C. B. HARTWORT or SERMOUNTAIN: a tall umbelliferous plant, with large leaves, composed of oblong pointed sections set in pairs or three together: the entire umbel, and its subdivisions, have a circle of little leaves at their origin: the seeds are large, of a pale brown colour, oblong, flat on one side, convex and striated on the other, and edged with a leafy margin: the root is large, thick, and branched. It is perennial, grows wild in some of the southern parts of Europe, is raised with us in gardens, and flowers in June.

BOTH the seeds of this plant, which are the part directed in our pharmacopœias, and the roots, appear to be useful aromatics, though not regarded in practice; of an agreeable smell, and a warm glowing sweetish taste. The roots have the greatest warmth and pungency;

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the seeds, the greatest sweetness and the most pleasant flavour. A spirituous extract of the seeds is a very elegant aromatic sweet.

S E S E L I M A S S I L I E N S E.

SESELI MASSILIENSE Pb. Ed. *Seseli massiliense fœniculi folio* C.B. *Fœniculum tortuosum* J.B. HARTWORT of MARSEILLES: a large spreading branched umbelliferous plant; with the stalk and branches firm, woody, knotty, and variously bent; the leaves finely divided, like those of fennel, but somewhat thicker, shorter, stiffer, and more distant from one another; the seeds also in shape like those of fennel, and of a pale grey colour. It is perennial, and a native of the southern parts of Europe, from whence the seeds are sometimes brought to us.

THE seeds of this plant have an agreeable aromatic smell, and a very warm biting taste: they are more pungent than those of the foregoing fœneli, but want their sweetness.

S I G I L L U M S A L O M O N I S.

SIGILLUM SALOMONIS seu *polygonatum* Pharm. Edinb. *Polygonatum latifolium vulgare* C.B. SOLOMONS-SEAL: a plant with unbranched stalks, bearing oval narrow leaves, ribbed like those of plantane, generally all on one side: on the other side hang oblong monopetalous white flowers, two or more together, on long pedicles, followed each by a black berry: the root is white, thick, fleshy, with several joints, and some flat circular depressions supposed to resemble the stamp of a seal. It is perennial, grows wild in woods, and flowers in May.

THE roots of Solomons-seal are recommended externally as vulneraries, restringents and discutients; and internally as incrassants and mild corroborants. Their virtues do not appear to be very great: they have little or no smell; to the taste they discover a considerable sweetness, which is followed by a very slight impression of bitterness and acrimony.

S I M A R O U B A.

SIMAROUBA Pharm. Edinb. the bark of an unknown tree, brought from Guiana, in long pieces, of a yellowish white colour, light, tough, and of a fibrous texture.

MR.

MR. de Jussieu reports, that this bark is of common use in Guiana, against dysenteric fluxes, and was brought from thence into Europe in the year 1713: that the fluxes which, in France, succeeded the excessively hot summer of 1718, and which not only resisted, but were aggravated by, purgatives, astringents, and ipecacoanha, happily yielded to simaruba: that decoctions of an ounce or half an ounce in a small quantity of water, the dose used by the natives of Guiana, occasioned often vomiting, almost always uneasy sweats, and sometimes an increase of the bloody and ferous discharges by stool; but that a decoction of two drams in a quart of water, boiled to the consumption of one third, divided into four doses, and taken warm at intervals of three hours, abated the pain in one day, and when continued for a short time completed the cure, without producing any nausea or disturbance: that it is not accompanied with the ill effects of astringents: that it abates spasmodic and hysteric symptoms: that it answers best in fluxes of the seroso-bilious, bloody and mucous kind, supported by a convulsive motion of the intestines, where there is no fever, where the functions of the stomach are unhurt, and in tenesmi (a). Dr. Degner likewise made use of this bark in the above form, with good success, after proper evacuations, in an epidemic putrid dysentery, which raged at Nimeguen during the summer and autumn of 1736: he says it acted mildly and almost insensibly, and that its effects were speedier in bloody than in bilious discharges: he takes notice also that the barks procured under the name of simaruba, in different parts of Holland, from Leipsick, and from Paris, differed greatly in quality from one another; but does not mention what the differences were, nor the qualities of the genuine or best sort (b).

The simaruba, I have met with in our shops, has a moderately strong, durable, not very ungrateful bitter taste, without smell, and without any manifest astringency. Macerated in water, or in rectified spirit, it quickly impregnates both menstrua with its bitterness, and with a yellow tincture. It seems to give out its virtue more perfectly to cold than to boiling water; the cold infusion being rather stronger in taste than the decoction; which last, of a transparent yellow colour whilst hot, grows turbid and reddish brown as it cools. The milky appearance, which Jussieu says it communicates to boiling water, I have not observed in the decoction of any of the specimens I examined.

S I N A P I.

(a) Mem. de l'acad. des scienc. de Paris, 1729. Geoffroy, mat. med. ii. 2 1.

(b) Hist. dysenteriae biliofo-contagiosæ, in Append. ad Act. nat. curios. vol. v.

S I N A P I.

SINAPI *Pb. Lond. & Ed.* *Sinapi rapi folio* *C. B.* **MUS-**
TARD: an annual plant; with long rough leaves divided to the rib
 into irregular segments, of which the extreme one is largest; pro-
 ducing, at the tops of the branches, tetrapetalous yellow flowers,
 followed, each, by a short, smooth, quadrangular pod, divided longi-
 tudinally by a membrane which projects at the ends, containing small,
 roundish, reddish-brown or dark coloured seeds. It is a native of
 England, but commonly cultivated for medicinal and dietetic use.

MUSTARD seed is one of the stronger of the pungent, stimulating,
 diuretic medicines that operate without exciting much heat. It is
 sometimes taken, unbruised, to the quantity of a spoonful at a time;
 in paralytic, scorbutic, cachectic, and serous disorders. It is applied
 also, as an external stimulant, to benumbed or paralytic limbs; to
 parts affected with fixt rheumatic pains; and to the soles of the feet,
 in the low stage of acute diseases, for raising the pulse: in this inten-
 tion, a mixture of equal parts of the powdered seeds and crumb of
 bread, with the addition, sometimes, of a little bruised garlick, are
 made into a cataplasm with a sufficient quantity of vinegar *.

* *Sinapis* *Pb. Ed.*

† *Ol. semin.*
sinapis *P. L.*
 & *E.*

Mustard seed yields upon expression a considerable quantity of oil †,
 which is by some recommended externally against rheumatisms and
 palsies, though it has nothing of that quality by which the seeds them-
 selves prove useful in those disorders; the oil being mild and insipid as
 that of olives, and the pungency of the seed remaining entire in the
 cake left after the expression. Nor is any considerable part of the pun-
 gent matter extracted by rectified spirit; the tincture, which is of a
 pale amber colour, having very little taste; and the extract, obtained
 by inspissating it, being only bitterish and oily: the quantity of extract is
 about one sixteenth the weight of the seeds. The bruised seeds give out
 readily to water nearly the whole of their active matter: added to boil-
 ing milk, they curdle it, and communicate their pungency to the whey.
 Distilled with water, they yield a limpid essential oil, extremely pun-
 gent and penetrating both in smell and taste, and so ponderous as to
 sink in the aqueous fluid: the remaining decoction, thus divested of
 the principle in which alone the acrimony of the mustard resides, leaves
 on being inspissated a sweetish mucilaginous extract.

S O L A N U M.

S O L A N U M .

NIGHTSHADE: a plant with a monopetalous flower, divided into five segments, having its cup divided in the same manner, with the same number of stamina in the middle, and followed by a juicy berry.

1. **BELLADONA** *Pharm. Paris.* *Solanum melanocerasos* C. B. *Solanum lethale, maniacum, & furiosum quibusdam.* Deadly nightshade or dwale: with the leaves oval, pointed, somewhat hairy; the flowers solitary in the bosoms of the leaves, of a dull purplish colour, tubulous, slightly cut, with the stamina separate from one another; the berries of a glossy black. It is perennial, grows wild in some shady waste grounds, and flowers in July.

2. **SOLANUM** *Pharm. Paris.* *Solanum officinarum* C. B. Garden nightshade: with the leaves oval, pointed, having generally some irregular indentations; the flowers in clusters, white, not tubulous, deeply cut, the segments spread out, and the tips of the stamina united into one button; the berries black. It is annual, grows wild in cultivated grounds, and flowers in August.

THE leaves of these plants have a faint smell, somewhat of the narcotic kind, which in drying is dissipated: on the organs of taste, whether fresh or dry, they make scarcely any impression. Their effects are nevertheless very powerful: in external applications, they are said to act as refrigerants, resolvents, and discutients: taken internally, in the quantity of not many grains, they are highly deleterious, the first somewhat the most so. In very small doses, as an infusion in boiling water of half a grain or a grain of the dried leaves, they occasion a warmth over the whole body; which is often followed by a sweat, or an increase of the urinary discharge, or some loose stools, or a sickness and vomiting; and often by a headach, giddiness, dimness of the sight, and other paralytic symptoms. In some cancerous, ulcerous, and hydropic cases, these infusions have been repeated, at bed-time, every two or three nights or oftener, and the quantity of the leaves in each dose increased gradually to five or six grains or more, with apparent benefit: but they are so variable and irregular in their operation, and so liable, not only to fail of giving relief, but to be productive of very alarming symptoms by strongly affecting the nervous system, that their use is deservedly laid aside. Their good effects, when they happen to prove medicinal, seem to depend, not on any alterative or peculiarly deobstruent

deobstruent power, but merely on the evacuations they produce: where they do not act as evacnants, they generally aggravate the complaints (a).

The roots and berries appear to partake of the deleterious qualities of the leaves, though probably in different degrees: the berries in particular seem to be of much less activity. It is said that three or four of the berries of the deadly nightshade, which are reckoned more virulent than those of the other sort, have been sometimes eaten without injury: Gesner reports that their expressed juice, boiled with a little sugar to the consistence of a syrup, proves, in doses of a tea-spoonful, an effectual and safe anodyne, but gives a particular caution not to exceed this dose.

3. *DULCAMARA* *sive solanum lignosum* Pharm. Edinb. *Solanum scandens seu dulcamara* C. B. *Amaradulcis* & *glycypicros quibusdam*.

Woody nightshade or bitter-sweet: with several of the leaves, particularly the upper ones, cut deeply into three sections, or rather furnished with two smaller appendages at the bottom; the flowers in clusters, of a blue colour, with the segments spread out and the stamina united as in the second species; the berries red. It grows by the sides of ditches and in moist hedges, climbing upon the bushes, with winding, woody, but brittle, stalks. It is perennial, and flowers in June and July.

THE roots and stalks of this species impress, on first chewing them, a considerable bitterness, which is soon followed by an almost honey-like sweetness. They have been commended in different disorders, as high resolvents and deobstruents: their sensible operation is by sweat, urine, and stool; the dose from four to six ounces of a tincture made by digesting four ounces of the twigs in a quart of white wine. Experience has shewn, that they are by no means equally deleterious with the two preceding nightshades; that they act more regularly and uniformly; and that, without producing nervous complaints, they produce more considerable evacuations, especially by stool: but their virtues in particular cases have not yet been sufficiently ascertained.

S P E R M A C E T I.

S P E R M A C E T I Pharm. Lond. & Edinb. *SPERMACETI*, improperly so called: a species of fat; found in certain whales, particularly in their heads; artificially purified, by boiling with alkaline ley,

(a) See Mr. Gataker's observations (and the supplement thereto) on the internal use of the nightshade; and Mr. Bromfeild's account of the English nightshades and their effects.

ley, to a snowy whiteness; and afterwards broke into flakes. It differs from the other animal fats, in not being dissoluble by alkalies or combinable with them into soap; and in rising almost totally in distillation, not in form of a fluid oil, but in that of a butyraceous matter resembling, both in consistence and smell, the butter of wax. In long keeping, it is apt to turn yellow and rancid: the matter, very small in quantity, which has suffered this change, and which taints the rest, is found to have lost the discriminating characters of the spermaceti; being dissoluble both by alkaline ley and by vinous spirits, so as to leave the remainder white and sweet as at first.

THIS concrete, of a soft butyraceous taste and no remarkable smell, is given with advantage in tickling coughs, in dysenteric pains and erosions of the intestines, and in such cases in general as require the solids to be softened and relaxed or acrimonious humours to be obtunded. It readily dissolves in oils, and unites by liquefaction with wax and resins; and in these forms is applied externally. For internal use, it may be dissolved in aqueous liquors into the form of an emulsion, by trituration with almonds, the yolk or white of an egg, and more elegantly by mucilages; or made into a lohoch, by mixing two drams of it with a suitable quantity of yolk of egg, then adding half an ounce of fresh drawn oil of almonds, and an ounce of balsamic syrup *.

* Lohoch de
spermate cœi
Pb. Ed.

S P I N A C E R V I N A.

SPINA CERVINA Pb. Lond. *Rhamnus catharticus* fruct
spina cervina Pb. Edinb. *Rhamnus catharticus* C. B. *Spina insecto-*
ria et cervispina quibusdam.

BUCKTHORN: a prickly bush, or low tree, common in hedges; with oval pointed leaves; producing in June small greenish flowers; and about the beginning of October ripening its black berries, which contain a dark green juice, with four seeds in each. The berries of the black alder and dogberry tree, which are frequently, in our markets, mixed with or substituted for those of buckthorn, may be distinguished, by their juice having no greenness, and by their containing only one or two seeds.

BUCKTHORN berries have a faint unpleasant smell, and a bitterish, acrid, nauseous taste. They operate briskly by stool; and occasion, at the same time, a thirst and dryness of the mouth and throat, and not unfrequently severe gripes, especially if water-gruel or other soft diluents are not freely drank soon after taking them. The dose is said

Syrupus e spi-
na cervina.

to be, about twenty of the fresh berries in substance; twice or thrice that number in decoction; a dram, or a dram and a half, of the dried berries; an ounce of the expressed juice; or half an ounce of the rob- or extract obtained by inspissating the juice. Among us they have been employed only in the form of a syrup, in which they seem to operate less unkindly than in any other, and which is given by itself in doses of three or four spoonfuls, or mixed in smaller quantities with other cathartics. The college of Edinburgh directs the syrup to be prepared by boiling the depurated juice with sugar to a due consistence: That of London adds a little cinnamon, ginger, and nutmegs, with a view to cover in some degree the ill flavour of the buckthorn: but notwithstanding this improvement of the medicine, it is still so unpleasant and so churlish, that it has now almost fallen into disuse.

S P I R I T U S V I N O S U S.

VINOUS SPIRIT: an inflammable fluid, obtained by distillation from wines or other fermented liquors. As first distilled, it partakes both of the phlegm or watery part, and of the oil, of the fermented liquor; which oil, in the liquors commonly used for this purpose, is nauseous and fetid.

1. SPIRITUS VINOSUS RECTIFICATUS *Pharm. Lond.* Rectified spirit of wine: a vinous spirit purified as much as possible both from its phlegm and ill smell.

* Spirit. vini
rectificatus
Pb. Ed.

Spirits drawn from wine, such as French brandy, may be in great measure purified by simple distillation, in tall vessels, with a gentle heat, the pure spirituous part rising before the phlegm: if French brandy be thus distilled to one half, the distilled spirit proves tolerably pure *. But wine or brandy being in this country too dear an article for distillation; and all vinous spirits, when perfectly purified, being one and the same thing; this purification is chiefly practised, among us, on the cheaper spirits of melasses and malt liquors. These spirits, when freed by distillation from greatest part of their phlegm, are still found, particularly the latter, to abound with a very offensive oil. To separate this, they are mixed with equal their quantity of spring water, and the spirit gently drawn off again: a considerable portion of the oil is thus left behind in the water, which now proves turbid, and milky, and very nauseous both in smell and taste. By repeating this ablution with fresh quantities of water, the foulest and most offensive spirits may be purified from all ill flavour.

Though

Though spirits, by this treatment, may be divested of their oil, they cannot be freed wholly from phlegm; the gentlest heat, in which they can be distilled, being sufficient to raise a little watery vapour. To complete the purification, therefore, a little fixt alkaline salt, thoroughly dried and powdered, is added; which, imbibing the phlegm, is thereby dissolved into a ponderous liquid, that does not mingle with the spirit, but settles to the bottom. If the spirit is very phlegmatic, four pints will require a pound of the alkali: if the distillation has been performed with due care, half this quantity, or less, will be sufficient: in either case, if all the salt dissolves, the spirit is to be digested with a little more, till at least a part remains undissolved. The spirit, now poured off, is to be again distilled*, in order to separate from it a portion of the salt, which has united with it, and which though extremely minute, is sufficient to vary, in some respects, its qualities. As some particles of the alkali are apt to be carried up with it even in the distillation, so as to communicate an ill flavour, it is advisable to previously add a small portion of calcined vitriol or burnt alum, which will completely absorb the alkali, without giving any new impregnation to the spirit. In this manner was prepared the spirit used in the experiments of the present work under the name of rectified or pure spirit of wine.

* Alcohol
Ph. Edinb.

Vinous spirits, thus rectified, have a very hot pungent taste, without any particular flavour. They readily take fire, and burn totally away, without leaving any mark of an aqueous moisture behind; though on catching the vapour that exhales from the flame, a considerable quantity of mere water is collected. On distilling them with the gentlest heat, the last runnings prove as colourless, flavourless, and inflammable, as the first. They dissolve distilled vegetable and animal oils, and all the pure resins, into an uniform transparent fluid. They are the lightest of almost all known liquids: expressed oils, which swim on water, sink freely in these to the bottom: a measure which holds ten ounces by weight of water, will contain little more than eight and a quarter of pure spirit.

2. SPIRITUS VINOSUS TENUIOR. Proof spirit: the same spirit
 “ containing an admixture of an equal quantity [by measure] of water.
 “ The best proof spirit is that distilled from French wine; but for
 “ common uses, may be employed the spirit drawn from the syrupy
 “ matter which separates in the purification of sugar, commonly called
 “ melasses spirit†.”---The spirits usually met with, under the name of † *Ph. Lond.*
 3 Y 2 proof,

proof, are those distilled from different fermented liquors, freed from their phlegm and their flavour only to a certain degree. Their purity, with regard to flavour, may be judged by the taste, especially if the spirit be first duly diluted: of their strength, or the proportion of phlegm contained in them, the least uncertain criterion seems to be their gravity, which is estimated most commodiously by the hydrometer. For the nicer purposes, a pure flavourless proof spirit may be obtained by mixing the foregoing rectified spirit with an equal measure of pure water.

RECTIFIED spirit coagulates all the fluids of animal bodies, that have been tried, except bile and urine. It hardens the solid or consistent parts, and preserves them from corruption. Applied externally to living animals, it strengthens the vessels, contracts the extremities of the nerves, and deprives them of sensibility: hence its power of restraining hemorrhagies, abating superficial pains, &c. Received into the stomach, undiluted, it produces the like effects; thickening the fluid, and contracting all the solid parts which it touches, and destroying, at least for a time, their use and office: if the quantity taken is considerable, a palsy or apoplexy follows and speedily proves mortal.

Proof spirits, and such as are diluted below the proof strength, have the same effects in a lower degree. Externally they are of use in corroborant, anodyne, and antiseptic fomentations. Taken inwardly, in small quantity, they strengthen lax fibres, incrassate thin fluids, and warm the habit: in larger quantity, they disorder the senses, destroy voluntary motion, and produce, like the rectified spirit, a mortal apoplexy or palsy.---Vinous spirits, therefore, in small quantity and properly diluted, may be applied to useful purposes in the relieving of some disorders; whilst in larger ones, or imprudently continued, they act as a poison of a particular kind. Their moderate use is the most serviceable to those, who are exposed to heat and moisture, to corrupted air, or other causes of colliquative and putrid diseases; the most pernicious in the opposite circumstances, and to those who are afflicted with hysterical or hypochondriacal complaints; for whatever temporary relief these spirituous cordials may afford in the lownesses to which hysterical and hypochondriacal persons are subject, we entirely agree with Dr. Pemberton, that there are none who feel so soon the ill effects arising from their habitual use.

S P O N G I A.

S P O N G I A Pharm. Lond. & Edinb. SPONGE: a soft, light, very porous and compressible substance, readily imbibing water; found in

in the sea, adhering to rocks, particularly in the Mediterranean, about the islands of the Archipelago. It has been commonly supposed a vegetable production, but is more probably, like the corallines, of animal origin. Chemically analysed, it yields, like animal substances, a volatile alkaline salt, and this even in larger quantity than I have obtained from any of the other animal matters except the bags of the silk-worm: the caput mortuum, incinerated, yields also a large proportion of fixt salt, not however an alkaline one like that of vegetables, but chiefly of the marine kind: a like salt is obtainable by boiling the sponge in water without burning.

DRY sponge, from its property of imbibing and distending by moisture, is sometimes used as a tent for dilating wounds and ulcers: for this purpose, after being carefully freed from the small stones generally lodged in it, it is dipt in melted wax, and the wax squeezed out from it in a press*. Burnt in a close earthen vessel, till it becomes black and friable†, it has been given in doses of a scruple against scrophulous complaints and cutaneous defecations; in which it has sometimes been of service, in virtue, probably, of its saline matter, the proportion of which, after the great reduction which the other matter of the sponge has suffered in the burning, is very large. By virtue of this saline matter also, the preparation, if ground in a brass mortar, corrodes so much of the metal, as to contract a disagreeable taint and sometimes an emetic quality: hence the college expressly orders it to be powdered in a mortar of glass or marble.

* Spongia
præparata
Pb. Paris.
† Spongia
usta Pb. L.

S T A N N U M.

STANNUM Pharm. Lond. Stannum, plumbum candidum, jupiter Pb. Edinb. TIN: a silver coloured metal, not liable to rust, but losing its brightness in the air; easily flexible, and making a crackling noise in being bent; little more than seven times specifically heavier than water; fusible in a heat far below ignition, and somewhat less than that in which lead melts. Heated till almost ready to melt, it proves extremely brittle, so as to fall in pieces from a blow. Melted, and nimbly agitated at the time of its beginning to congeal (as by shaking in a wooden box rubbed on the inside with chalk) it is reduced partly, and by repetitions of the process totally, into powder‡. Continued in fusion for some time, and kept stirring with an iron rod, it changes into a dusky calx§; which, urged longer in the fire, gains a perfect

‡ Stannum
pulveratum.
Pb. Lond.
§ Calx jovis
Pb. Ed.

a perfect whiteness, a mark of the purity of the tin. It is corroded by vegetable acids, and renders them turbid and whitish: the nitrous acid pretty readily dissolves it, but soon deposits a part in form of a thick mucilage, especially if the acid has any admixture of the vitriolic: the vitriolic and marine acids are very difficultly made to act upon it: its most perfect menstruum is a mixture of the marine and nitrous.

The principal use of this metal in the present practice is as an anthelmintic: even the flat worms, which too often elude the force of other medicines, are said to be effectually destroyed by powdered tin. The common dose of the powder is from a scruple to a dram, but Dr. Alston affirms, that its success depends chiefly on its being given in much larger quantities, as half an ounce or an ounce (*a*). It is possible, that the anthelmintic virtues of tin may proceed, not so much from the pure metal, as from a certain substance of a different nature, which there are grounds to suspect that the purest sorts of tin, usually met with, participate of: filings of tin, held in the flame of a candle, emit a thick fume smelling like garlick: Mr. Marggraf reports (*b*), that by gentle dissolution in aqua regis and slow evaporation, he obtained crystals, which on being exposed to the fire, with the addition of some fixt alkaline salt to absorb their acid, sublimed into a white concrete; and that this exhaled in the fire in fumes of a strong garlick smell, formed with sulphur yellow and red compounds, and whitened copper (see *arsenicum*). It must be observed, however, that notwithstanding these strong presumptions, not to say proofs, of an arsenical impregnation in tin, the metal taken in substance has not been observed to be noxious, though the fumes which it emits in a red heat are undoubtedly so.

A sparkling gold-coloured preparation of tin, called mosaic gold, is prepared by adding six ounces of quicksilver to twelve of melted tin, pulverizing the mass when grown cold, mixing with it seven ounces of flowers of sulphur and six of sal ammoniac, and subliming in a matras: the mosaic gold is found under the sublimed matter, with some dross at the bottom *. This preparation is chiefly valued for its beautiful appearance: as a medicine it is at present little regarded, though formerly held in considerable esteem against hysterical and hypochondriacal complaints, malignant fevers, and venereal disorders. It appeared, upon experiment, to be little more than a calx of tin: tin, calcined by itself, gains nearly as much in weight, as it does by being made

* Aurum
mosaicum
Pb. Lond.

(*a*) Edinburgh medical essays and observations, vol. v art. 7.

(*b*) Memoires de l'acad. roy. des sciences de Berlin, tom. iii.

made into mosaic gold; and the mosaic gold, melted with inflammable fluxes, is revived into tin again without suffering much more loss than the simple calx. The volatile ingredients, sal ammoniac, sulphur, and quicksilver, sublime in the process, partly escaping, and partly forming the scorix: great part of the sulphur and mercury are found united together into the form of cinnabar.

A salt of tin is directed to be prepared, from twelve ounces of calx of tin and four of aqua regia diluted with twenty-four of water: after digestion for two days, the vessel is to be shaken, the more ponderous part of the undissolved calx suffered to settle, the turbid liquor poured off and evaporated nearly to dryness, and the mass further exsiccated on brown paper: to the remaining calx, half the quantity of fresh menstruum is to be added, and the process repeated *. Of the virtues of this salt I can say nothing from experience, except that it is in taste very sharp and almost corrosive. Nor do I apprehend the use of calcining the metal, as tin uncalcined dissolves much more easily and more plentifully: the solution is in both cases the same, the fire in the calcination dissipating only the inflammable principle of the tin, which the acid equally does in the solution and evaporation. Hoffmann says that solution of tin, given in the dose of a dram, is a strong purgative.

* Sal jovis.
Ph. Edinb.

S T A P H I S A G R I A.

STAPHISAGRIA Pharm. Edinb. & C. B. *Staphys, pedicularia, & herba pedicularis quibusdam.* STAVESACRE: a plant with large leaves, set on long pedicles, deeply divided into several segments; producing irregular blue flowers with a tail behind like those of larkspur, followed by pods containing large, rough, triangular, dark coloured seeds. It is annual, a native of the southern parts of Europe, from whence the shops have been generally supplied with the seeds.

The seeds of stavesacre have a disagreeable smell, and a very nauseous bitterish burning taste. They were formerly employed sometimes as a cathartic, in doses of from twelve grains to a scruple: but they operate with so much violence both upwards and downwards, and are so liable not only to disorder the bowels but likewise to inflame the throat, that their internal use has been long laid aside. They are now used only in external applications, for some kinds of cutaneous eruptions, and for destroying insects. Their acrimony is extracted partially by

by water, totally by rectified spirit, and not elevated in distillation by either.

S T O E C H A S.

STOECHAS Ph. Lond. *Stæchas arabica* Ph. Ed. *Stæchas purpurea* C. B. FRENCH LAVENDER: a low shrubby plant, with small oblong narrow leaves, bearing on the tops of the branches short thick spikes or scaly heads, from which issue several small purple labiated flowers, followed each by four seeds inclosed in the cup. It is a native of the southern parts of Europe, common in our gardens, and flowers in May or June. The shops have been generally supplied, from Italy and the south of France, with the flowery tops, often mouldy, and never equal to those of our own growth.

THE best stechas which we receive from abroad has no great smell or taste; Pomet affirms that such as is to be met with in the shops of Paris is entirely destitute of both; whereas ours, both whilst fresh and when carefully dried, has a pretty strong aromatic smell, and a moderately warm pungent bitterish taste. Distilled with water, it yields a considerable quantity of a pale coloured fragrant essential oil: the remaining decoction is unpleasantly bitterish and subastrigent. With rectified spirit, it gives over nothing considerable, greatest part of the active matter of the stechas being left in the extract. Both the herb itself and its preparations are much less grateful than lavender, with which it is supposed to have some agreement in virtue.

S T Y R A X.

SOLID STORAX: an odoriferous resin, exuding in the warmer climates from a middling-sized tree (*styrax folio mali cotonei* C. B.) with leaves like those of the quince, flowers like those of the orange tree, and fruit like filberds; a native of Asia, and, as is said, of Italy. Two sorts of this resin have been commonly distinguished in the shops.

1. *Storax in the tear*: not in separate tears, or exceeding rarely, but in masses, sometimes composed of whitish and pale reddish brown tears, and sometimes of an uniform reddish-yellow or brownish appearance; unctuous and soft like wax, and free from visible impurities. This is supposed to be the sort which the ancients received from

from Pamphylia in reeds or canes, and which was thence named calamita.

2. *Common storax*: in large masses, considerably lighter and less compact than the foregoing, and having a large admixture of woody matter like saw-dust. This appears to be the kind intended by the London college, as they direct their *styrax calamita* to be purified, for medicinal use, by softening it with boiling water, and pressing it out from the feces betwixt warm iron plates *; a process which the first sort does not stand in need of. And indeed there is rarely any other than this impure storax to be met with in the shops.

* *Styrax*
colatus
Ph. Lond.

The writers on the materia medica in general prefer the pure storax in the tear, and reject that which is mixed with woody matter. It appears however, upon comparison, that this last, notwithstanding its large proportion of impurities, is the most fragrant of the two: nor is it difficult to assign a reason for this superiority, as the pure juice must have required, for its inspissation to a firm consistence, a longer exposure to the sun and air, and consequently lost more of its volatile parts, than when absorbed and thickened by the woody substance.

Common storax, infused in water, imparts to the menstruum a gold yellow colour, some share of its smell, and a slight balsamic taste. It gives a considerable impregnation to water by distillation, and strongly diffuses its fragrance when heated, though it scarcely yields any essential oil. Hence, in the purification of it by straining, it is apt to suffer a considerable loss of its finer matter, which is partly dissipated by the heat, and partly kept dissolved by the water: a part of the storax is likewise defended by the woody substance from the action of the press, and left behind among the feces. It may be purified rather more elegantly by means of rectified spirit, which readily dissolves the fine resin, leaving only the impurities and a little inert gummy matter: the spirit gently distilled off from the filtered reddish-yellow solution, brings over with it very little of the fragrance of the storax; and the remaining resin is more fragrant than the finest storax in the tear which I have met with. The pure resin, distilled without addition, yields, along with an empyreumatic oil, a portion of saline matter similar to the flowers of benzoine; I have sometimes also extracted from it a substance of the same nature by coction in water.

Storax is one of the most agreeable of the odoriferous resins, of a mild taste, of no great heat or pungency, nearly similar, in its medical as in its pharmaceutic qualities, to benzoine and balsam of Tolu. It is not, however, much used in common practice, unless as an ingredient in

some of the old compositions, and in an opiate pill to which it gives name in the shops.

S T Y R A X L I Q U I D A.

STYRAX LIQUIDA Pharm. Edinb. LIQUID STORAX: a resinous juice; obtained from a large tree with angular leaves like those of the maple, and a round fruit composed of a number of pointed seed-vessels, called by Ray *styrax aceris folio*, a native of Virginia and Mexico, and lately naturalized to our own climate. The juice called liquidambar is said to exude from incisions made in the trunk of this tree, and the liquid storax to be obtained by boiling the bark or branches in water.

Two sorts of liquid storax are distinguished by authors: one, the purer part of the resinous matter that rises to the surface in the boiling, separated by a strainer, of the consistence of honey, tenacious like turpentine, of a reddish or ash brown colour, of an acrid unctuous taste, and a fragrant smell, faintly resembling that of the solid storax, but somewhat disagreeable: the other, the more impure part, which remains on the strainer, in smell and taste much weaker, and containing a considerable proportion of the substance of the bark. What is most commonly met with under this name in the shops, is of a weak smell, and a grey colour, and is supposed to be an artificial composition.

S U C C I N U M.

SUCCINUM Pb. Lond. Succinum sive carabe Pb. Ed. Ambarum citrinum & electrum quibusdam. AMBER: a solid, brittle, bituminous substance, dug out of the earth or found upon the sea shores, most plentifully in Polish Prussia and Pomerania; of a white, yellow, or brown colour, sometimes opaque, and sometimes very clear and transparent; of very little taste; and scarcely any smell, unless heated or briskly rubbed, in which circumstances it yields a pretty strong one, to most people agreeable. Boiled in water, it neither softens, nor undergoes any sensible alteration. Digested in rectified spirit, it imparts a yellowish or brownish colour, a fragrant smell, and a bitterish aromatic taste: by repetitions of the process with fresh quantities of spirit, greatest part of the amber by degrees dissolves, the last tinctures proving similar in quality to the first: the spirit, distilled off

off from the tinctures, is strongly impregnated with their smell; nevertheless the remaining balsam, or soft extract, is found to be very strong both in smell and taste.

THE tincture and balsam are medicines of great efficacy in hysterical disorders, cachexies, the fluor albus, some rheumatic pains, and in debilities and relaxations in general: in some cases of this kind they have taken place, after bark and other corroborants of the vegetable kingdom had been given with little effect. The spirit, which distils in concentrating the tincture, may be reserved for extracting a fresh tincture, either from another parcel of amber, or from that which remained after the former extraction. It is said that if a little vitriolic acid be previously combined with the spirit, it will dissolve more of the amber than pure vinous spirits: in this view the college of Edinburgh directs a tincture to be made, by digesting, in a gentle sand-heat for four days, two ounces of yellow amber in a pint of the dulcified spirit of vitriol *. The amber is sometimes given also in substance, levigated into an impalpable powder †, but does not appear to act with so much advantage in this form as in a dissolved state.

* Tinctura
succini P. E.
† Succinum
præparatum
Ph. L. & Ed.

THIS concrete, exposed to the fire in open vessels, melts into a black mass, takes flame, emits a copious smoke, with a smell like that which arises from the finer kinds of pitcoal, and burns almost entirely away. Distilled in a retort, it yields first an acidulous phlegm ‡ intermingled with a thin limpid oil, which grows thicker and deeper coloured as the fire is increased: at length a brownish saline matter || arises into the neck of the retort, succeeded by a grosser oil, and at last, in a great heat, by a black thick pitchy matter. About the time that the first oil begins to rise, the amber melts in the retort, and, unless the heat be cautiously regulated, is apt to boil over into the receiver: to prevent this accident, some previously mix with the amber an equal quantity of clean sand, which does not appear, however, to be of much use, for with due care the process succeeds equally without as with it.

‡ Spiritus
succini
Ph. L. & Ed.
|| Sal succini
Ph. Ed.

The salt is purified from its adhering oil, either by sublimation §, or by repeated solution, filtration, and crystallization **. When perfectly pure, it is of a white colour, and of a penetrating gratefully acid taste. It dissolves in rectified spirit as well as water, though not very readily in either, and crystallizes into irregular masses. In the heat of boiling water, it does not exhale, or suffer any visible alteration: in a greater one, it first melts, then rises in white fumes, and concretes again in the upper part of the glass into fine white flakes; leaving behind a small quantity of a dark coaly matter. It effervesces

§ Sal succini
rectificatum
Ph. Ed.
** Sal succini
Ph. Lond.

with alkalies and absorbent earths, and forms with them compound salts somewhat resembling those made with vegetable acids, its acid matter seeming to have a considerable analogy to the acids of the vegetable kingdom, and being essentially distinct from the three called mineral acids (a): mixed with acids, it makes no sensible commotion. By these characters this salt may be distinguished from all the other matters that have been mixed with or vended for it. With regard to its virtues, it is accounted aperient, diuretic, and antihysterical: its great price has prevented its coming much into use, and probably its real virtues, though doubtless considerable, fall greatly short of the opinion that has been generally entertained of them.

The oil *, distilled again by itself, is divided into a thinner oil which arises †, and a thicker part, which remains behind, called balsam of amber ‡: some distil it from brine of sea salt §, or from plain water, by which it becomes purer than when distilled without addition. This oil has a strong bituminous smell, and a hot pungent taste; and approaches more to the nature of the mineral petrolea than of the vegetable or animal distilled oils. It is sometimes given internally, in doses of ten or twelve drops, as an antihysterical and emmenagogue; and sometimes employed externally in antihysterical, paralytic, and rheumatic liniments or unguents.

Ol. succini
* *Pb. Ed.*
† *Pb. Lond.*
‡ Balsamum
succini *P. L.*
§ Ol. succini
rectificatum
Pb. Ed.

S U L P H U R.

SULPHUR Pb. Lond. Sulphur factitium & sulphur vivum Pb. Edinb. BRIMSTONE: a yellow concrete, of no taste, and scarcely any smell; melting in a small degree of heat into a viscous red fluid, and totally exhaling on an increase of the heat; readily inflammable, and burning with a blue flame and a suffocating acid fume.

It consists of the vitriolic acid combined with a small proportion of inflammable matter (see *vitriolum*). If a combination of pure vitriolic acid with a pure fixt alkaline salt be melted in a close vessel with the addition of a little powdered charcoal, a true sulphur will be produced, and the compound will be the same (excepting for the earthy part of the charcoal) as if the alkali had been melted with common brimstone. And contrariwise, if a combination of alkaline salt with common brimstone be reduced into powder, and roasted with a gentle heat, the inflammable principle exhales, and the remainder proves the same as if

(a) See Neumann's chemical works, page 237.

the

the alkali had been combined with the pure vitriolic acid: the diminution of weight, resulting from this avolation of the inflammable principle, does not exceed two drams upon sixteen ounces of the sulphur (*a*).

Greatest part of the sulphur met with in the shops is either extracted from certain ores by a kind of distillation (*b*); or prepared from minerals abounding with vitriolic acid, by stratifying them with wood, which being set on fire, the sulphur is collected in cavities made in the upper part of the pile (*c*). The largest quantities are brought from Saxony, in irregular masses, which are afterwards melted and cast into cylindrical rolls. Sulphur is found likewise native in the earth; sometimes in transparent pieces, of a greenish or bright yellow colour; more commonly in opaque grey ones with only some streaks of yellow: this last is the sort which is understood by the name *sulphur vivum*, though what is sold under this name in the shops is no other than the dross which remains after the sublimation of sulphur. The native sulphurs should never be employed for any internal use without purification: they almost always participate of arsenic, which is discoverable in some by their having naturally more or less of a red colour, and in the others by their exhibiting this colour after a part of the pure sulphur has been separated by sublimation.

Sublimation is the most effectual method of purifying sulphur from arsenical as well as earthy admixtures; and by the same process it is reduced into a fine powder, somewhat of a softer kind than that obtained by triture. Those who prepare the flowers in the way of trade, use for the subliming vessel a large iron pot, capable of holding two or three hundred weight: this is placed under an arched chamber, lined with glazed tiles, which serves for the recipient. Some small portion of the sulphur that rises first, especially when the vessels are very large, or the air not sufficiently excluded, is apt to take fire, and give out its acid, which adhering to the flowers that sublime afterwards, communicates to them a sensible acidity or roughness; in consequence of which, they are sometimes found to coagulate milk, when taken internally to produce gripes, and to receive from some metalline vessels a disagreeable taint: hence the London college directs such of the flowers, as may happen to concrete or melt together from the vicinity of the receiver to the fire, to be reduced to powder either in a wooden mill, or in a marble mortar with a wooden pestle *. From * Flor. sulph.
this Ph. Lond.

(*a*) Vide Stahl'si Mensis Julius, Experimenta & animadversiones ccc, &c.

(*b*) Leopold, Relatio de itinere suo Suecico.

(*c*) Hoffmann, Observationes physico-chemicæ, lib. iii. obs. 9.

* Flor. sulph.
Pb Edinb.
 Flor. sulph.
 loti *P. L.*

this extraneous or superficial acid they are freed, by boiling them in water, and afterwards carefully washing them with cold water *.

PURE sulphur, taken in doses of from ten grains to a dram or more, gently loosens the belly, and promotes perspiration. It seems to pass through the whole habit; and manifestly transpires through the skin, as appears from the sulphureous smell of persons who have taken it, and silver being stained in their pockets to a blackish hue as by the vapour of sulphureous solutions. In consequence of these properties, and of this subtilty of parts, it promises to be of great medicinal powers; but its particular virtues, experience has not as yet clearly determined. It is principally recommended against the piles, in disorders of the breast, and in cutaneous eruptions: in the itch indeed it is a certain remedy, whether internally or externally used, but in other kinds of eruptions it has not equally succeeded, and perhaps its efficacy against the first depends not so much on its purifying the blood, as on its fumes being destructive to the cuticular animalcules to which the present theory ascribes that distemper. It remarkably corrects or restrains the power of certain mineral substances of the more active kind: by the admixture of sulphur, mercury becomes inert, the virulent antimonial regulus mild, and arsenic itself almost innocent: hence though sulphur should contain a small proportion of arsenic, it possibly may not receive from that poisonous ingredient any very hurtful quality.

Balsam. sulph.
 † simplex.
 ‡ barbadense.
 § crassum.

Bals. sulph.
 || terebinthi-
 nat.
 ** anisatum.
Pharm. Ed.

This concrete is not acted on by water, by acids, or by vinous spirits; but dissolves, by the assistance of heat, in oils both expressed and distilled, and in the mineral petrolea: when dissolved, it yields a very offensive smell, and discovers to the taste a nauseous pungency and heat. Expressed oils and petroleum dissolve it more readily and more plentifully than the distilled, taking up so much as to become thick and almost consistent: the college of London directs one part of flowers of sulphur and four of oil olive †, and the same proportions of the flowers and of the petroleum called Barbadoes tar ‡, and that of Edinburgh four ounces of the flowers and a pint of linseed oil §, to be boiled together till they unite into the consistence of a balsam. Essential oils do not load themselves so much with the sulphur as to become thick: when two ounces of the flowers are digested in ten of oil of turpentine ||, or in a mixture of six of oil of turpentine and four of oil of aniseeds **, which last acts the most powerfully of any of the essential oils that have been tried, a considerable part of the sulphur remains undissolved. As soon as the sulphur begins to be strongly acted on either by expressed or essential oils, which happens nearly about the point

point of ebullition, the matter rarefies and swells up greatly, so as to require the vessel to be very large and occasionally removed from the heat; and at the same time throws out impetuously great quantities of an elastic vapour, which, if a free exit is not allowed it, produces violent explosions. The volatile flavour of the essential oils is in great measure dissipated in this process by the great heat requisite for effecting the solution: a more elegant composition of this kind might be obtained by adding to the essential oil a proper quantity of the balsam made with expressed oils, which will unite with it by a gentle warmth. --- The balsams of sulphur have been employed externally for cleansing and healing foul running ulcers. They are recommended internally in some cachectic and hydropic cases; as also in coughs and consumptions, in which they promise, by their manifest heat and acrimony, to be oftener injurious than beneficial: they have been frequently observed to hurt the appetite, and excite febrile symptoms.

Fixt alkaline salt, stirred by little and little into twice [or rather half] its weight of sulphur in fusion, unites with it into a red mass called from its colour *liver* of sulphur *. This compound has a fetid smell, and a nauseous taste: it dissolves in water, and deliquates in the air, into a yellow fluid: thrown, whilst hot from the fire, into rectified spirit of wine, in the proportion of about four ounces to a pint, and digested about twenty-four hours †, it communicates a rich gold colour, a particular not ungrateful smell, and a hot somewhat aromatic taste. Solutions of the liver in water, made with sugar into a syrup ‡; and a few drops of the tincture mixed with a glass of canary or other rich wine, to which it communicates a milky hue; have been sometimes given in the same intentions as the balsams, and seem to be accompanied with the same inconveniencies.

Flowers of sulphur may be dissolved in water by boiling them with thrice their weight of quicklime, though not near so readily as by alkaline salts. On adding to the solution, whether made by lime or by alkalies, some of the weak spirit of vitriol, the liquor becomes milky, an extremely fetid and diffusive vapour arises, and on standing for some time the sulphur settles to the bottom in form of a white powder, which, when washed with fresh quantities of water, becomes insipid and inodorous, and is vulgarly called *lac* or milk of sulphur. The method of preparing the lac with fixt alkalies § is the most expeditious and least troublesome, provided the sulphur has been thoroughly united with a sufficient quantity of the alkali; and on the other hand quicklime || gives the preparation a more saleable whiteness. The medicine proves

* Hepar.
sulphuris
Ph. Ed.

† Tinctura
sulphuris.

‡ Syrupus
sulphuris.

§ Lac. sulph.
Ph. Ed.

|| Sulphur
præcipitatum.
Ph. Lond.

in

in either case nearly the same: it would be exactly the same if the precipitation was made with any other acid than the vitriolic; which forms with the dissolved lime a selenitic concrete not separable from the lac by any ablution, but with the alkali a neutral salt which by hot water may be totally dissolved and washed off; whereas the combinations of all the other acids, with lime as well as with alkalies, are easily dissoluble even in cold water. The pure lac is not different in quality from pure sulphur itself; to which it is preferred, in external applications, only on account of its colour. The whiteness does not proceed from the sulphur having lost any of its parts in the operation, nor from any new matter superadded: on being melted with a gentle fire, it resumes its yellow hue.

A solution of sulphur in volatile alkaline spirits may be obtained, by boiling half a pound of flowers of sulphur with a pound of quicklime, in a gallon of water, till half the liquor is wasted; then putting the remainder into a retort, with eight ounces of powdered sal ammoniac, and distilling with a gradual fire *. The spirit comes over loaded with the sulphur, and has a strong offensive smell, somewhat resembling that which rises in the precipitation of the lac. Hoffmann says a mixture of it with thrice its quantity of spirit of wine, given in doses of thirty or forty drops, proves a powerful diaphoretic; and that applied externally as a fomentation, with the addition of camphor, it alleviates gouty pains.

* Tinct. sulph.
volatilis
vulgo.

The flowers of sulphur in substance seem to be preferable for internal use to any of the preparations: they are certainly more safe, and perhaps not less effectual; as they do not heat or irritate the first passages, and yet are evidently dissolved in the body and carried through the habit. They are most commodiously taken in the form of troches: the college of London directs for this purpose two ounces of the washed flowers, and four of double refined sugar, to be beaten together, and made up with mucilage of quince seeds †; that of Edinburgh, one ounce of the flowers of sulphur, a dram of flowers of benzoine, and three ounces of fine sugar, to be formed with mucilage of gum tragacanth ‡: by the addition of the flowers of benzoine in this last prescription, the medicine is supposed to be rendered more efficacious in some disorders.

† Troch. c
sulphure
P. L.

‡ Trochisci
diasulphuris
P. E.

A sulphureous ointment, for the itch, is prepared, by mixing two ounces of the unwashed flowers, with six ounces of the simple ointment called pomatum, and a scruple of essence of lemons §. Half this quantity is, in most cases, sufficient for a cure; though it may be proper

§ Unguentum
c sulphure
P. L.

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proper to renew the application, and touch the parts most affected, for some nights longer, till the whole quantity is exhausted. Some have been of opinion, that this external use of sulphur is unsafe; that as sulphur taken inwardly promotes the expulsion of impure humours and the eruption of cutaneous efflorescences, it must act, when outwardly applied, by repressing them. This consequence, however, does not follow; nor is it by affecting the humours that it performs the cure: for it equally removes the itch whether used internally or externally, by its vapours diffused through the skin. All the danger, that is to be apprehended from sulphureous unguents, is that which may arise from the obstruction of the cutaneous pores by the unctuous matter; and to prevent any disorder from this cause, only one fourth of the body is to be anointed at one time.

S U M A C H.

SUMACH five *rhys obsoniorum* Pb. Ed. *Rhus folio ulmi* C.B.

SUMACH: a shrub or low tree, with oval, pointed, serrated, downy leaves, having each a red rib running along the middle, set in pairs without pedicles; producing clusters of small yellowish or greenish flowers, each of which is followed by a small, red, flattish berry, including a roundish reddish-brown seed. It is a native of the southern parts of Europe, and cultivated in some of our gardens.

THE berries of sumach have an acid austere taste: they were formerly used for restraining bilious fluxes, and hemorrhagies, and colliquative hectic sweats: some direct an infusion of half an ounce of the berries, and others two or three drams of an extract made from them by water, for a dose. The leaves and young twigs are strong astringents, and have been directed in the same intentions.

T A C A M A H A C A.

TACAMAHACA Pb. Ed. a resin; obtained from a tree, resembling the poplar, bearing, at the extremities of the branches, small roundish fruits including a seed like a peach-kernel; a native of the temperate parts of the continent of America, and in a sheltered situation enduring the winters of our own country.

Two sorts of this resin are sometimes to be met with. The best, called, from its being collected in a kind of gourd-shells, *tacamahaca* in shells, is somewhat unctuous and soft, of a pale yellowish or greenish

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greenish colour, a bitterish aromatic taste, and a fragrant delightful smell approaching to that of lavender and ambergris. This sort is very rare. That commonly found in the shops is in semitransparent grains or glebes, of a whitish, yellowish, brownish, or greenish colour, and of a less grateful smell than the foregoing. The first is said to exude from the fruit of the tree, the other from incisions made in the trunk. The tree, as raised among us, affords in its young buds or the rudiments of the leaves, a resinous juice of the same kind of fragrance.

Tacamahaca is used chiefly as an ingredient in warm nervine plasters; though the fragrance and taste of the finer sort points out its being applicable to other purposes, as an internal balsamic corroborant. Both kinds dissolve in rectified spirit into a gold-coloured liquor, only a small quantity of impurities being left: they impregnate water also considerably with their smell and taste, but give out very little of their substance to this menstruum.

T A L C U M.

T A L K: an earthy concrete; of a fibrous or leafy texture; more or less pellucid, bright or glittering; smooth and slippery to the touch; in some degree flexible and elastic, so as scarce to be pulverable; soft, so as to be easily cut; suffering no change in an intense fire, or no other than a diminution of its brightness, flexibility, and unctuousity; not acted upon by acids, either in its crude state, or after vehement calcination. There are several different appearances of this earth; among which, the greenish foliaceous *Venice talk*, the fibrous flexible *amiantbus* and *asbestos*, and the more rigid fibrous *alumen plumosum*, have been selected for medicinal use; though it does not appear that they are capable of answering any medicinal intention, as they are not dissolved, or sensibly affected, by any known humid menstruum. The Venice talk, on account of its unctuous softness, and the silver hue which it exhibits when reduced by rasping or otherwise into powder, has been employed externally as a cosmetic.

T A M A R I N D U S.

TAMARINDUS *Ph. Lond. & Ed. Oxyphænicon.* TAMARIND: the fruit of a pretty large tree, *siliqua arabica quæ tamarindus C. B.* growing

growing in Arabia and in the East and West Indies. The fruit is a pod, somewhat resembling a bean-cod, including several hard seeds, together with a dark-coloured viscid pulp: the East India tamarinds are longer than those of the West, the former containing six or seven seeds each, the latter rarely above three or four: they nevertheless seem both to be the produce of one species of plant. The pulp, with the seeds, connected together by numerous tough strings or fibres, are brought to us freed from the outer shell: the oriental sort is dryer and darker coloured than the occidental, and has more pulp: the former is sometimes preserved without addition, the latter has always an admixture of sugar.

THE pulp of tamarinds is an agreeable laxative acid; of common use in inflammatory and putrid disorders, for abating thirst and heat, correcting putrefaction, and loosening the belly. The dose, as a laxative, is two or three drams: an ounce or two prove moderately cathartic. It is an useful addition to the purgative sweets, cassia and manna, increasing their action, and rendering them less liable to produce flatulencies: the resinous cathartics are somewhat weakened by it. Tournefort observes that an essential salt may be obtained from tamarinds, by dissolving the pulp in water, and setting the filtered solution, with some oil upon the surface, in a cellar for several months; that the salt is of a sourish taste, and difficultly dissoluble in water; and that a like salt is sometimes found also naturally concreted on the branches of the tree.

T A N A C E T U M.

TANACETUM Pb. L. & Ed. *Tanacetum vulgare luteum* C. B. *Tanasia, atkanasia, & parthenium mas quibusdam.* TANSY:

a plant with large leaves divided, to the rib, on both sides, into oblong deeply indented segments; producing, on the tops of the stalks, several gold-coloured discous flowers, in umbel-like clusters, followed by small oblong blackish seeds. It is perennial, grows wild by roadsides and about the borders of fields, and flowers in June and July.

THE leaves and flowers of tansy have a strong, not very disagreeable smell, and a bitter somewhat aromatic taste: the flowers are stronger though rather less unpleasant than the leaves. They give out their virtue both to water and spirit, most perfectly to the latter: the tincture, made from the leaves, is of a fine green, from the flowers of a bright pale yellow colour. Distilled with water, they yield a greenish-

yellow essential oil smelling strongly of the herb: the remaining decoction, inspissated, affords a strong bitter sub saline extract. The spirituous tinctures give over also, in inspissation, a considerable part of their flavour; a part of it remaining, along with the bitter matter, in the extract.

THIS plant is used as a warm deobstruent bitter, in weakness of the stomach and in cachectic and hysteric disorders; and likewise as an anthelmintic. The seeds have been chiefly recommended in this last intention, and supposed by some to be the *santonium* of the shops, from which they differ not a little in quality as well as in appearance, being much less bitter, and of a more aromatic flavour.

T A R T A R U M.

TARTARUM vini albi vel rubri Ph. Lond. Tartarus Ph. Ed. TARTAR: an acid concrete salt; thrown off from wines, after complete fermentation, to the sides and bottoms of the casks; of a red or white colour, and more or less droffy, according to the colour and quality of the wine. The white is generally purer than the red: both kinds, when purified, are exactly the same.

This salt is one of those which are most difficultly dissoluble in water, being scarcely affected by it in the cold, and requiring ten or twelve times its own weight when assisted by a boiling heat. From this saturated solution the tartar begins to separate almost as soon as the boiling ceases: if the quantity of water is greater, as about twenty times the weight of the salt, it continues long enough suspended to be passed, with due care, through a woollen strainer or a filter. The filtered liquor appears limpid and colourless, whether the tartar made use of was red or white: if hastily cooled, the salt separates in small grains like sand, but if the vessel is closely covered, and the heat very leisurely diminished, it shoots into semitransparent white *crystals* *: if the filtered liquor be kept boiling, a thick skin forms on the surface, which, being taken off with a perforated wooden skimmer, is succeeded by fresh cuticles, till the whole of the salt is thus formed into what is called *creme* of tartar †. The refining of tartar is practised, in the way of trade, chiefly about Montpellier, from whence the shops are generally supplied both with the crystals and creme; the process being so troublesome, and requiring so large conveniencies, that it is scarcely ever attempted here. The purer sort of white tartar, unrefined, especially

* Crystalli
tartari
P. L. & E.

† Cremor
tartari
Ph. Ed.

cially that of Rhenish wine, is, for many purposes, particularly for combinations with other bodies, not inferior either to the creme or crystals.

PURE tartar, in doses of half a dram or a dram, is a mild cooling aperient: two or three drams gently loosen the belly; and six or eight prove moderately cathartic. Its acidity and laxative power are its medical characters.

Tartar, dissolved in water, effervesces with fixt alkaline salts, and saturates, of the vegetable alkalies, near one third its own weight. The compound salt, resulting from their union, is a neutral one, more purgative than the tartar itself, and far easier of solution, whence its name soluble tartar. This salt is prepared, either by boiling the refined tartar in ten times its weight of water till it is dissolved and then dropping in strong alkaline ley*, or by dissolving the alkali in boiling water in the proportion of a pound to a gallon and then adding the tartar†, till a fresh addition occasions no further effervescence: the liquor is then filtered while hot, and either crystallized or evaporated to dryness. As this salt difficultly crystallizes, inspissation to dryness is the most convenient method; and in this case, to secure the perfect neutralization of the salt, the tartar should be made to prevail at first, and the liquor suffered to cool a little before filtration that the redundant tartar may concrete and separate from it.

Tart. solubil.
* *Pb. Edinb.*

† *Pb. Lond.*
Sal vegetabilis quibusd.

Of the mineral fixt alkali or soda, this acid saturates, according to the faculty of Paris, four fifths its own weight. The neutral salt resulting from its coalition with this alkali‡, is somewhat less dissoluble than that with the vegetable; and shoots much more easily, into pretty large, hard, multangular crystals, some columnar and flattish, others more irregular. It is milder in taste, and in virtue less purgative, requiring to be given to the quantity of an ounce or an ounce and a half to purge effectually: eight drams seem to be about equivalent, in cathartic power, to six of the soluble tartar.

‡ *Sel de Seignette, Sal Rupellensis, Rochelle salt.*

Tartar forms likewise soluble compounds with all the absorbent earths, and with some metallic bodies, but with these last it is difficultly made to satiate itself completely, the part that is first saturated seeming to impede the action of the rest; for after long boiling, a very considerable part of the tartar separates on crystallization unchanged.

It is observable, that if any of these combinations of tartar, with alkalies, with earths, or with metals, be dissolved in water, and any other acid added, the pure tartar separates and falls to the bottom, as acid, and as difficult of solution, as at first; the substance, that was combined

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combined with it, being absorbed by the acid superadded. As the acids of the vegetable kingdom whether native or fermented, vinegar, lemon juice, tamarinds, &c. have this effect of disuniting tartar from all the bodies that are combinable with it, equally with those of the mineral kingdom; it follows, that the tartareous acid is of a kind essentially different from all the other known vegetable ones, and that no acid, unless it be tartar itself, can be joined in prescription to the *tartarum solubile*, the *sel de Seignette*, or the combinations of tartar with earths or metals.

T E L E P H I U M.

TELEPHIUM: a plant with unbranched stalks, clothed with thick fleshy oval leaves, but producing no leaves immediately from the root: the flowers stand in form of umbels on the top of the stalk, and are followed, each, by from three to six pods full of small seeds: the root is irregular and knobby. It is indigenous in England, and perennial.

1. *CRASSULA sive telephium* Ph. Ed. *Telephium vulgare* C. B. *Anacampteros*, *fabaria*, & *faba crassa quibusdam*. Orpine: with the leaves very slightly or not at all serrated; growing in hedges and moist shady grounds, and producing reddish or whitish pentapetalous flowers in June. The leaves have been supposed to be possessed of an anti-inflammatory power; but their virtues appear to be very inconsiderable, as they have no smell, and only an herbaceous mucilaginous taste.

2. *RHODIOLA sive rosea*: *Rhodia radix* C. B. Rosewort: with serrated leaves; growing in mountainous places, and producing yellow tetrapetalous flowers in the spring. The root of this species, of little smell when fresh, has when dry a very pleasant one, resembling, when the root is in perfection, that of the damask rose; in this odorous matter consists the medical virtue of the rhodiola, and its principal medical difference from the preceding species. Linnæus observes, that when raised in gardens, it has not one hundredth part of the smell or virtue of that which is produced on its native mountains.

T E R E B I N T H I N Æ.

TURPENTINES: the native balsams or resinous juices of certain trees. Four kinds are distinguished in the shops.

I. TERE-

1. TEREBINTHINA CHIA *Pb. L.* *Terebintbina chia & cypria Pb. Ed.* Chio or Cyprus turpentine: generally about the consistence of thick honey, very tenacious, clear and almost transparent, of a white colour with a cast of yellow and frequently of blue, of a warm pungent bitterish taste, and a fragrant smell more agreeable than that of any of the other turpentines. It is the produce of the common terebinth (*terebintbus vulgaris C. B.*), an evergreen bacciferous tree or shrub, growing spontaneously in the eastern countries and in some of the southern parts of Europe. The turpentine brought to us is extracted in the islands whose name it bears, by wounding the trunk and branches a little after the buds have come forth: the juice issues thin and clear as water, and by degrees thickens into the consistence in which we meet with it. A like juice, exuding from this tree in the east, inspissated by a slow fire, is said by Kæmpfer to be used as a masticatory by the Turkish women, for preserving the teeth, sweetening the breath, and promoting appetite.

2. TEREBINTHINA VENETA *Pharm. Edinb.* Venice turpentine: usually thinner than any of the other sorts, of a clear whitish or pale yellowish colour, a hot pungent bitterish disagreeable taste, and a strong smell, without any thing of the fine aromatic flavour of the Chian kind. The true Venice turpentine is said to be obtained from the larch (*larix C. B.*), a coniferous tree, with small cones, and short leaves standing in tufts which fall off in the winter, growing in great abundance on the Alps and Pyreneans, and not uncommon in the English gardens. Though this kind of turpentine bears the name of Venice, it is not the produce of the Venetian territories: the greatest quantities are brought from New England.

3. TEREBINTHINA ARGENTORATENSIS *Pb. Lond. & Edinb.* Strasburg turpentine: generally of a middle consistence between the two foregoing, more transparent and less tenacious than either, in colour yellowish brown, in smell more agreeable than any of the other turpentines except the Chian, in taste the bitterest yet least acrid. This juice is extracted, in different parts of Germany, from the silver and red fir (see page 1) by cutting out, successively, narrow strips of the bark, from as high as a man can reach to within two feet of the ground. In some places, a resinous juice is collected from certain knots under the bark: this, called *lacryma abiegna* and *oleum abietinum*, is accounted superiour to the turpentine.

4. TERE-

4. TEREBINTHINA COMMUNIS *Pb. Lond. & Ed.* Common turpentine: about the consistence of honey, of an opaque brownish white colour, the coarsest, heaviest, in smell and taste the most disagreeable, of all the kinds of turpentine. It is obtained from the wild pine (*pinus silvestris C. B.*) a low coniferous tree, with the leaves longer than those of the firs and issuing two together from one tubercle, growing wild in different parts of Europe. This tree is extremely resinous, insomuch that, if not evacuated of its juice, it often swells and bursts. The juice, as it issues from the tree, is received in trenches made in the earth, and afterwards freed from its grosser impurities by colature through wicker baskets. The cones of the tree appear to contain a resinous matter of a more grateful kind than that of the trunk: distilled while fresh, they are said to yield a fine essential oil * greatly superiour to that of the turpentine.

* Carpathicum
German.

ALL these juices dissolve totally in rectified spirit, but give out little to watery menstrua: they become miscible with water, into a milky liquor, by the mediation of the yolk or white of an egg, and more elegantly by mucilages. Distilled with water, they yield a notable quantity of a subtile penetrating essential oil † vulgarly called spirit; a yellow ¶ or blackish § resin remaining in the still: this is the common rosin of the shops. It is supposed that the officinal Burgundy pitch ||, which is brought from Saxony, is a preparation of the same kind, only less divested of the oil, made by boiling the common turpentine till it acquires a due consistence. The essential oil, redistilled by itself in a retort, with a very gentle heat, becomes more subtile, and in this state is called ethereal **; a thick matter remaining behind, called balsam of turpentine ††. A like balsam is obtained also by distilling, with a stronger fire, the common resin; from which there arises, first a thin yellow oil, and afterwards the thicker dark-reddish balsam §§, a blackish resin ¶¶ remaining in the retort.

† Ol. terebinth.
P. L. & Ed.

¶ Resina flava
Pb. Lond.

§ Resina nigra seu
colophonia *Pb. Ed.*

|| Pix Burgundica
Pb. L. & Ed.

** Ol. terebinth.
æther. *P. L.*

†† Balf. terebinth.
Pb. Lond.

§§ Balf. terebinth.
Pb. Ed.

¶¶ Resina nigra seu
colophonia
Pb. Lond.

All the turpentine are hot stimulating corroborants and detergents. They are given, where inflammatory symptoms do not forbid their use, from half a scruple to half a dram and upwards, for cleansing the urinary passages and internal ulcerations in general, and in laxities of the seminal and uterine vessels. They seem to act in a peculiar manner on the urinary organs, impregnating the water with a violet smell, even when applied externally, particularly the Venice sort. This last is accounted the most powerful as a diuretic and detergent, and the Chio and Strasburgh as corroborants: they all loosen the belly, the
Venice

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Venice most; and on this account they are supposed by Riverius and others to be less hurtful than such irritating diuretics, as are not accompanied with that advantage. The common turpentine, as being the most offensive, is rarely given internally: its principal use is in some external applications, among the farriers, and for the distillation of the oil.

The oil is a most potent stimulating detergent diuretic. It is sometimes given, in doses of a few drops, in rheumatisms and fixt pains of the joints; and some have ventured on much larger quantities. Cheyne recommends, as a perfect cure for sciaticas, though of many years standing, from one to four drams of the ethereal oil, to be taken with thrice its quantity of honey, in a morning fasting, with large draughts of sack whey after it, and an opiate at bed-time: this medicine is to be repeated, with the intermission of a day now and then, if daily repetitions cannot be born, for four or five days, or eight at furthest (*a*). It appears, however, highly imprudent, to venture on such large doses at once of a medicine so very hot and stimulating. Boerhaave, after recounting, not without some exaggeration, its styptic, anodyne, healing, antiseptic, and discutient virtues when applied hot externally, and its aperient, warming, sudorific and diuretic qualities when taken internally, adds, that it must be used with great caution; that when taken too freely, it affects the head, excites heat and pain therein, and, violently urging a diabetes, brings on a flux of the semen and of the liquor of the prostates; and that in venereal runnings, in which it has by some been commended, it tends to inflame the parts and increase the disorder.

The balsam and the inspissated resins are used chiefly externally: the balsam is less pungent than the oil, and the resins much less so than the turpentine in substance. The common yellow resin, in taste considerably bitter, is sometimes given as an internal corroborant, in preference to the turpentine themselves, as being divested of the stimulating oil.

T E R R A J A P O N I C A.

T E R R A J A P O N I C A P. Lond. *Catechu sive terra japonica* P. Ed. JAPAN EARTH, improperly so called: the inspissated juice of the fruit, as is supposed, of an East-Indian palm-tree, *palma cujus fructus sessilis faufel dicitur* C. B. It is dry and pulverable, outwardly of a reddish colour, inwardly of a shining dark blackish

4 B

brown

(*a*) Essay on the gout, Edit. x. § 1xxi. p. 119.

brown with a slight cast of red: the deepest coloured, heaviest, and most compact, is accounted the best.

Trochisci e
terra japon.

THIS concrete is a mild astringent, more agreeable in taste than most of the other substances of that class, being accompanied with a considerable degree of sweetness. It is often suffered to dissolve leisurely in the mouth; both as a topical restringent for laxities and exulcerations of the gums; and in alvine and uterine fluxes, and catarrhal coughs and hoarseness; medicines of this kind acting in general to much better advantage when thus gradually swallowed, than when taken in full doses at once. With this view the terra japonica is made in the shops into troches: the college of London directs it to be beaten with equal its weight of gum-arabic, and four times the weight of both of sugar of roses, and so much water to be dropt in as will reduce them into a mass of a due consistence for being formed: that of Edinburgh orders one part of the terra japonica, four of gum tragacanth, and twenty four of fine sugar, to be made up with rose-water.

* Tinctura
japonica P. L.

Japan-earth dissolves almost totally in water, excepting the impurities; which are usually of the sandy kind, and in considerable quantity, amounting, in the specimens I examined, to about one eighth of the mass. Of the pure matter, rectified spirit dissolves about seven eighths, into a deep red liquor: the part, which it leaves undissolved, is an almost insipid mucilaginous substance. In the shops a solution of it is made in proof spirit, with the addition of cinnamon, a spice the best adapted of any to the intention of this medicine: three ounces of the japan-earth and two of cinnamon are digested in a quart of the spirit, and the strained tincture * given commonly in doses of two or three tea-spoonfuls. It dissolves also in volatile alkaline spirits, in alkaline ley, in the mineral acids, partially and more difficultly in the vegetable acids, and not at all in oils: all the solutions are of a red or purplish colour.

T E R R E A A B S O R B E N T I A.

ABSORBENT EARTHS: distinguishable from other earthy and stony substances by their solubility in acids. Such are, the mineral calcareous earths, as chalk: the animal calcareous earths, as crabs-claws, oyster-shells, egg-shells, pearl, coral, coralline: animal earths not calcareous, as crabs-eyes and burnt hartshorn. See the respective substances; which have been separately treated of, so far as concerned each in particular; and whose general and common qualities were reserved for this article.

THE

THE obvious and immediate virtue of these bodies is, to obtund acid humours in the first passages, and thus to relieve the cardialgic and other complaints occasioned by them: the relief, however, which they afford, is oftentimes only temporary; from their acting only upon the acid already generated, without correcting the indisposition which tends to produce more. If no acid humours are contained in the first passages, these earthy bodies, not soluble by any other kind of fluid, can have no salutary operation; and, by concreting with the viscous contents of the stomach into indigestible masses, may prove injurious in a high degree (*a*).

Absorbents are of more general use in infancy than in adult age; acidities being very familiar to young children, being often in that tender age productive of alarming symptoms, and having a greater or less share in most of their diseases; whereas, in adults, they are much less frequent, accompanying chiefly hypochondriacal affections, cardialgiæ, and such disorders as happen in the first passages from the immoderate use of acid and fermentable food. It is not therefore to be concluded, from the good effects of these kinds of substances in childrens cases, that they will be attended with the like success in the similar diseases of adults: convulsions, in children, are often allayed by absorbents; but in the convulsions of adults, the same remedies, though recommended by many practical writers, are insignificant.

An hypothesis formerly obtained, which ascribed the acute diseases of adults to a morbid acid, against which the absorbent earths were introduced as the most direct alexipharmacs. This theory is now justly exploded; these diseases, instead of being produced, being in general most successfully controlled, by acids. The use of absorbents, in different kinds of fevers, is nevertheless still continued, and sometimes perhaps with advantage: for, though the earths of themselves are apparently rather injurious than beneficial, yet as acids are often given freely at the same time, the solution of the earth in the acid may prove a medicine more serviceable in particular cases than the acid unobtunded. It is however, doubtless, more advisable, to use the earth previously dissolved in the acid, than to give them separately.

The college of Berlin, sensible of the advantage of having the earths, in these cases, previously dissolved, or reduced to a soluble saline form; as well as of the absurdity, retained in other German pharmacopœias, of precipitating them from their solutions by fixt alkaline salts, and thus rendering them wholly inert; directs them to be

4 B 2

digested

(a) Vide Tralles *Virium terreis remediis ascriptorum examen rigorosius*.

* Magisterium
solubile, coral-
liorum, per-
larum, &c
P. Brandenb.

digested in distilled vinegar, with a gentle heat, till the menstruum ceases to act, and the filtered solution to be inspissated to dryness *. This preparation is greatly preferable to the simple imbibition with vinegar or lemon juice recommended by some; as by this last management the earth is made soluble only in part, and in an undeterminable proportion.

Solutions of these earths in vegetable acids are in taste somewhat austere. The different earths differ somewhat from one another, both in the degree and in the species of the taste, and probably also in the medical effects, of the solutions: but whether these differences are such, that some of them, as crabs-claws, pearl, coral, and bezoar, are most disposed to promote a diaphoresis in fevers, while others, as egg-shells and oyster-shells, act rather by promoting urine, as seems to be generally supposed, has not been determined by fair experience, the earths having rarely been given in a dissolved or in a soluble state. It is most probable that they all act, when dissolved, as mild cooling restringents; for when given in substance, as absorbents, in cases of acidities, they all tend to restrain fluxes of the belly or to bring on costiveness, an effect to which regard ought to be had in the use of them---There are two soluble earths, not commonly ranked among the absorbents, whose effects, when combined with acids, are known with more certainty, as they have been used oftener, so combined, than otherwise; to wit, the aluminous earth and magnesia; of which the one is strongly styptic, and the other moderately purgative: see page 38 and 357.

Combinations of the absorbent earths with the nitrous and marine acids are bitterish and of great pungency, particularly those with the marine: the medical effects of these solutions are little known (see page 397 and 496). The vitriolic acid does not dissolve them into a liquid form, but precipitates them from all the others, and is thus combined with them into concretes nearly insipid (see page 519).

Experiments have been made for determining the comparative strength of different absorbents, or the quantities of acid they are capable of satiating. Langius reports that ten grains of crabs-claws destroyed the acidity of forty drops of spirit of salt; that egg-shells, crabs-eyes, and mother of pearl, taken in the same quantity, saturated fifty drops each; red coral, white coral, and fixt alkaline salt, sixty drops each; volatile alkaline salt and pearl, eighty drops each; chalk, an hundred drops; oyster-shells, an hundred and twenty; and some lime stones

no less than an hundred and sixty (*a*). These experiments however (admitting their accuracy, and the acid to have been equally neutralized in all, which may be reasonably questioned) do not answer the end so perfectly as could be wished; for, to different acids, the earths have different habitudes: from a set of experiments made by Homberg, it appears that oyster-shells, for example, require for their solution more of the marine acid than coral does; whereas of the nitrous acid, contrariwise, the coral requires more than the oyster-shells (*b*). Neither the nitrous nor the marine acids are those which absorbents are destined to satiate in the human stomach, and by which their strength should be examined: the acids of the vegetable kingdom, and the acid of milk, may be presumed to be the most analogous to such as are generated in the bodies of animals. On trying, with these, the several substances enumerated at the beginning of this article, the differences in their absorbent powers appeared not to be great: they all saturated pretty nearly the same quantities of the acids; and there remained, from all, quantities very considerable, but not very greatly different, of a matter which further additions of the acid would not dissolve.

T H E A.

T H E A Pb. Ed. T E A: the leaf of a Chinese shrub, *evonymo affinis arbor orientalis nucifera flore roseo Pluk. alm.* The leaves, carefully picked, are dried hastily on warm iron plates; whereby they are said to lose in great measure some noxious qualities which they have when fresh, and to preserve their admired flavour which by slow exsiccation would be lost. The several sorts of tea brought to us are supposed to be the leaves of the same plant, collected at different times, and cured in a somewhat different manner: Neumann suspects that the brown colour, and the flavour, of the bohea sorts, are introduced by art.

BOTH the green and bohea teas have an agreeable smell, and a lightly bitterish subastringent taste: with solution of chalybeate vitriol, they strike an inky blackness. They give out their smell and taste both to watery and to spirituous menstrua: to water, the green sorts communicate their own green tincture, and the bohea their brown: to rectified spirit they both impart a fine deep green. On gently drawing off the menstrua from the filtered tinctures, the water is found to elevate nearly

(*a*) *Vide* Langii Opera omnia medica, Lipsiæ 1704, p. 452 & seq.

(*b*) *V.* Mémoires de l'acad. roy. des sciences de Paris, pour l'ann 1700.

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nearly all the peculiar flavour of the tea, while rectified spirit brings over little or nothing, leaving the smell as well as the taste concentrated in the extract: both extracts are very considerably astringent, and not a little ungrateful; the spirituous most so.

Infusions of tea, as dietetic articles, have been extravagantly commended by some and condemned by others; and notwithstanding the frequency of their use, their real effects are scarcely as yet clear. They seem, when moderately used, to be for the most part innocent: in some cases, they seem to be salutary: in some, they are apparently prejudicial. They dilute thick juices and quench thirst more effectually, and pass off by the natural emunctories more freely, than mere watery fluids: they refresh the spirits in heaviness and sleepiness, and seem to counteract the operation of inebriating liquors. From their manifest astringency, they have been supposed to strengthen and brace up the solids, but this effect experience does not countenance: it is in disorders, and in constitutions, wherein corroborants are most serviceable, that the immoderate use of tea is peculiarly hurtful; in cold indolent habits, cachexies, chloroses, dropries, and debilities of the nervous system.

T H L A S P I.

THLASPI *Pb. Lond.* a plant with oblong narrow undivided leaves joined immediately to the stalks, on the tops of which grow numerous tetrapetalous flowers, each of which is followed by a short flat seed-vessel divided transversely into two cells.

1. *Thlaspi arvense siliquis latis* *C. B.* Treacle-mustard: with roundish-pointed jagged leaves, and broad capsules containing about four seeds in each cell. It is annual, and grows wild in corn-fields.

2. *Thlaspi arvense, vaccariæ incano folio majus* *C. B.* Mithridate mustard: with hoary sharp-pointed leaves shaped like an arrow-head; and only one seed in each cell. It is biennial, and grows in fields and open clayie grounds.

THE seeds of these plants have an acrid biting taste, approaching to that of the common mustard; with which they agree nearly in their pharmaceutic properties, their pungent matter being totally extracted by water, only partially by rectified spirit, and being elevated by water in distillation. They have, joined to their acrimony, an unpleasant flavour, somewhat of the garlick or onion kind; and this they give out to spirituous as well as watery menstua. They are rarely made use of
any

any otherwise than as ingredients in the compositions whose names they bear : though some recommend them in different disorders, preferably to the common mustard.

T H U S.

T H U S *Ph. Lond.* *Thus vulgare, resina pinea sicca, Ph. Ed.* Frankincense : a solid brittle resin, brought to us in little glebes or masses, of a brownish or yellowish colour on the outside, internally whitish or variegated with whitish specks. It is supposed to be the produce of the pine that yields the common turpentine, and to concrete upon the surface of the terebinthinate juice soon after it has issued from the tree.

THIS resin has a bitterish acrid unpleasant taste, and no considerable smell : it dissolves totally in rectified spirit, but is scarcely acted upon by watery menstrua. It may be looked upon as a mild corroborant ; though at present it is little otherwise made use of than as an ingredient in theriaca, and externally in plasters.

T H Y M E L Æ A.

T H Y M E L Æ A *Ph. Paris.* a shrubby plant ; with smooth uncut leaves ; and monopetalous flowers set thick together : each flower is cut into four acute sections, and followed by an oblong red or black berry containing one seed, which resembles a hemp-seed.

1. *THYMELÆA* : *Thymelæa foliis lini C. B.* Spurge-flax : with the stalks and branches clothed with evergreen leaves like those of flax ; and white flowers in clusters on the tops.

2. *LAUREOLA seu chamælea* : *Laureola sempervirens flore viridi, quibusdam laureola mas C. B.* Spurge-laurel : with evergreen shining bay-like leaves, standing several together, only at the tops of the branches ; and greenish flowers on pedicles in their bosoms.

3. *MEZEREUM* : *Laureola folio deciduo, flore purpureo, officinis laureola femina C. B.* Spurge-olive, widow-wail : with pale purplish flowers clothing the branches ; on the tops of which appear, after the flowers have fallen, bay-shaped leaves not shining.

The first of these plants grows on mountainous places in the southern parts of Europe : the second in moist woods in some parts of England : the third, a native of Germany, is cultivated in our gardens on account of the elegance and earliness of its flowers, which sometimes appear

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appear in the end of January: the berries of all the sorts ripen in August or September.

THE leaves of these plants have little or no smell, but a nauseous, very acrid, durable taste, inflaming the mouth and fauces: taken internally, in small doses, as ten or twelve grains, they operate with violence, by stool, and sometimes by vomit, so as not to be ventured on with safety unless their virulence be previously abated by long boiling, and even then they are much too precarious to be trusted to. The flowers are of a different nature, being in taste little other than mucilaginous and sweetish, and of a light pleasant smell. The pulpy part of the berries appears also to be harmless; but the seeds, called *coccognidia* or *grana cnidia*, are as acrid, and as virulently purgative, as the leaves.

T H Y M I A M A.

THYMIAMATIS cortex Officinarum Germaniæ: Thus judæorum Quorundam: a bark, in small brownish-grey pieces, intermixed with bits of leaves, seeming as if the bark and leaves had been bruised and pressed together, brought from Syria, Cilicia, &c. and supposed to be the produce of the liquid-storax tree.

THIS bark has an agreeable balsamic smell, approaching to that of liquid storax, and a subacid bitterish taste accompanied with some slight astringency. Infusions of it in water are of an orange colour, in taste and smell ungratefully balsamic: inspissated, they leave a dark reddish brown extract, retaining some of the smell of the bark, in taste austere, slightly bitter, and of a mild aromatic acrimony. To rectified spirit it communicates a dark colour like that of a solution of balsam of Peru: the spirit, distilled off from this tincture, is highly fragrant, insomuch that a dram communicates an agreeable odour to some quarts of water: the remaining extract is likewise of a pleasant smell, and amounts to at least one eighth of the weight of the bark.

This bark, said to be common in the German shops, is in this country very rarely to be met with. Cartheuser and Hoffmann, from whom the above account is extracted, report, that it affords an excellent fumigation for œdemas, rheumatisms, and catarrhs; and that the spirituous tincture and extract, and the distilled spirit, are useful anodynes or antispasmodics in convulsive coughs and other disorders.

T H Y M U S.

THYME: a low shrubby plant; consisting of numerous slender tough stalks, with little roundish leaves in pairs, and loose spikes,

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spikes, on the tops, of purplish or whitish labiated flowers, whose upper lip is nipt at the extremity, the lower divided into three nearly equal segments.

1. **THYMUS** *Ph. Ed.* *Thymum vulgare folio tenuiore C. B.* Common thyme: with upright stalks, and dark brownish green somewhat pointed leaves; a native of the southern parts of Europe, common in our gardens, and flowering in June and July.

This herb is a moderately warm pungent aromatic. To water it imparts, by infusion, its agreeable smell, but only a weak taste, with a yellowish or brown colour: in distillation, it gives over an essential oil, in quantity about an ounce from thirty pounds of the herb in flower, of a gold yellow colour if distilled by a gentle fire, of a deep brownish red if by a strong one, of a penetrating smell resembling that of the thyme itself but less grateful, in taste excessively hot and fiery: the remaining decoction, inspissated, leaves a bitterish, roughish, subsaline extract. The active matter, which by water is only partially dissolved, is by rectified spirit dissolved completely; though the tincture, in colour blackish-green, discovers less of the smell of the thyme than the watery infusion: the spirit brings over in distillation a part of its flavour, leaving an extract of a weak smell and of a penetrating camphorated pungency.

2. **SERPYLLUM** *Ph. Ed.* *Serpyllum vulgare minus C. B.* Mother-of-thyme: with trailing stalks, and obtuse leaves; growing wild on heaths and dry pasture grounds. This also is an elegant aromatic plant, similar to the foregoing species, but milder, and in flavour rather more grateful. Its essential oil is both in smaller quantity and less acrid, and its spirituous extract comes greatly short of the penetrating warmth and pungency of that of the other. Both the leaves themselves, and their spirituous tincture, are of a bright green colour, without any thing of the brown or blackish hue of those of the common thyme.

3. **THYMUS CITRATUS** *Ph. Lond.* *Serpyllum foliis citri odore C. B.* Lemon-thyme: in appearance differing little from the second sort, except that it is more upright and more bushy; a native of dry mountainous places, common in gardens, and flowering as the others in June or July. This species is less pungent than the first sort, more so than the second, and much more grateful than either: its smell in particular is remarkably different, approaching to that of lemons.

Distilled with water, it yields a larger quantity than the other sorts, of a yellowish very fragrant oil of the lemon flavour, containing nearly all the medicinal parts of the plant, for the remaining decoction is almost insipid as well as inodorous. It gives over also with rectified spirit its finer odorous matter; a less agreeable flavour, and a moderate warmth, remaining in the spirituous extract.

T I L I A.

TILIA Ph. L. & Ed. *Tilia femina folio majore* C. B. LIME or LINDEN: a tall spreading-branched tree, with large heart-shaped, serrated, soft, somewhat hairy leaves: in the bosoms of these rise long narrow leafy productions, from the middle rib of which issue one or three pedicles bearing three flowers apiece, or one pedicle bearing nine: the flower is whitish, pentapetalous, and followed by a kind of dry berry about the size of a filberd. It is a native of England, flowers in July, and begins to lose its leaves in August.

THE flowers of the lime-tree are supposed to have an anodyne and antispasmodic virtue: Hoffmann seems to have had a great opinion of them in these intentions, and as his theory deduces most diseases from spasms and spasmodic strictures, they are accordingly very frequent in his prescriptions: he says he knew a chronical epilepsy cured by the use of an infusion of them drank as tea. The fresh flowers have a moderately strong smell, in which their virtue (whatever it may be) seems to consist, and which in keeping is soon dissipated: when divested of this odorous principle, they discover to the taste only a strong mucilage, from which may be extracted, by rectified spirit, a slightly bitterish subastringent matter.

T I T H Y M A L U S.

SPURGE: a plant with small smooth leaves, round stalks full of a milky juice, and umbel-like clusters of tetrapetalous flowers, whose cups are divided into four segments set alternately with the petala: the flower is followed by a roundish or three-square capsule containing three seeds.

1. TITHYMALUS PARALIOS: *Tithymalus maritimus* C. B. Sea spurge: with oblong narrow flax-like leaves, broadest in the middle, clothing

clothing the stalks, and lying over one another in an upward direction, like scales; and two roundish, heart-shaped, or kidney-shaped leaves encompassing each of the subdivisions of the umbel: found wild on sandy shores, and flowering in June. All the parts of this plant are extremely acrid irritating cathartics; apt to inflame the mouth, fauces, and stomach; operating with so great violence, that though some may perhaps have born their operation without much injury to the constitution, yet common prudence forbids their being ever ventured on. Several correctors have been employed for them, but none with commendable success: maceration of the middle bark of the root in vinegar, directed by the faculty of Paris, renders it indeed less virulent, but of precarious operation: digestion of the milky juice with alkaline salts, recommended by others, leaves it still too acrid. For alleviating inflammatory symptoms produced by imprudently swallowing or tasting these acrid substances, milk, plentifully drank, seems the most effectual remedy. Gerard gives an instance, from personal experience, of the virulent effects of the spurge, and the efficacy of milk in relieving them.

2. TITHYMALUS CYPARISSIUS C. B. Cypress spurge: with numerous oblong slender leaves, not wider in the middle than at the ends; the umbel divided into numerous ramifications, each of which is divided and subdivided into two; the divisions perforating as it were the two roundish leaves which encompass them; a native of Germany, Switzerland, and some other parts of Europe. This species, though allowed by the faculty of Paris to be used indiscriminately with the preceding, is in all its parts less acrimonious. Poterius says he has found half a dram or a dram of the powdered root to act as a mild cathartic; and that the juice obtained from the bruised herb and root, depurated and exsiccated in the sun, is of the same operation with scammony (a).

SEVERAL other spurges are enumerated in catalogues of the materia medica, under the names of *esula*, *pityusa*, *cataputia*, *lathyrus*, *alypum*, *peplus*, *apios*, &c. among which there does not appear to be any one more virulent than the first above described, or less virulent than the second. None of them are among us ventured on for any internal use: the milky juice of the wild spurges is sometimes applied externally by the common people for consuming warts.

4 C 2

T O R M E N-

(a) Pharmacopœia spagyrica, Lib. iii. sect. 3.

M A T E R I A M E D I C A.

T O R M E N T I L L A.

TORMENTILLA *Pb. L. & Ed.* *Tormentilla silvestris* *C. B.* *Heptaphyllum.* **TORMENTIL** or **SEPTFOIL**: a plant with slender, weak, upright stalks; oblong leaves, indented towards the extremity, and converging from the indented part to their juncture with the stalk, standing generally seven at a joint; and small yellow tetrapetalous flowers on the tops of the branches, followed by naked seeds: the root is generally crooked and knotty, of a dark brown or blackish colour on the outside, and reddish within. It is perennial, grows wild in woods and on commons, and flowers in June.

TORMENTIL root is a strong and almost flavourless astringent, and gives out its astringency both to water and rectified spirit, most perfectly to the latter: the watery decoction, of a transparent brownish red colour whilst hot, becomes turbid in cooling like that of the Peruvian bark, and deposits a portion of resinous matter: the spirituous tincture, of a brighter reddish colour, retains its pellucidity. The extracts, obtained by inspissation, are intensely styptic, the spirituous most so.

T R I C H O M A N E S.

TRICHOMANES *Pharm. Lond.* *Polytrichum sive trichomanes* *Pb. Ed. & C. B.* *Callitrichum.* **ENGLISH MAIDENHAIR**: a small plant, without stalks: the leaves are long, narrow, composed of little roundish dark-green segments set in pairs along a shining black rib: the seeds are a fine dust lying on the backs of the leaves. It is perennial, and grows wild on shady grounds and old walls.

This herb has a mucilaginous somewhat sweetish and roughish taste, and little or no particular flavour. It is accounted serviceable in disorders of the breast, particularly in tickling coughs and hoarseness from thin acrid defluxions, and in these intentions has been long substituted among us to the *adiantum*, from which it appears to be very little, if at all, different in quality. It is usually directed in infusion or decoction, with the addition of a little liquorice: a pectoral syrup is prepared in the shops, from an infusion of five ounces of the dry leaves and four of liquorice root in five pints of boiling water*.

* Sympus
pectoralis
Pb. Lond.

T R I F O L I U M P A L U D O S U M.

TRIFOLIUM PALUDOSUM *Pb. Lond.* *Trifolium palustre sive fibrinum* *Pb. Edinb.* *Trifolium palustre* *C. B.* *Menyanthes*

anthus & acopa quibusdam. BUCKBEAN: a plant with large oval leaves, pointed at each end like those of the garden bean, set three together on long pedicles, which embrace the stalk to some height, and there parting leave it naked to near the top, where issues a short spike of pretty large reddish white monopetalous flowers, each of which is cut into five segments, hairy on the inside, and followed by an oval seed-vessel. It is perennial, grows wild in marshy places, and flowers in May.

THE leaves of buckbean have a bitter penetrating taste, which they impart both to watery and spirituous menstrua; without any remarkable smell or flavour. They have of late years come into common use, as an alterative and aperient, in impurities of the humours, and some hydropic and rheumatic cases. They are usually taken in the form of infusion, with the addition of some of the acrid antiscorbutic herbs, which in most cases improve their virtue, and of orange-peel or some other grateful aromatic to alleviate their ill taste: they are sometimes, among the common people, fermented with malt liquors, for an antiscorbutic diet-drink. Their sensible operation is by promoting urine and somewhat loosening the belly.

T U R P E T H U M.

TURPETHUM sive turbith Ph. Ed. TURBITH: the cortical part of the root of a species of convolvulus; brought from the East Indies, in oblong pieces, of a brown or ash colour on the outside and whitish within: the best is ponderous, not wrinkled, easy to break, and discovers to the eye a large quantity of resinous matter.

THIS root, on the organs of taste, makes at first an impression of sweetness; but when chewed for some time, betrays a nauseous acrimony. It is accounted a moderately strong cathartic, but does not appear to be of the safest or most certain kind; the resinous matter, in which its virtue resides, being very unequally distributed; insomuch that, as is said, some pieces, taken from a scruple to a dram, purge violently, whilst others, in larger doses, have very little effect.

T U S S I L A G O.

TUSSILAGO sive farfara Ph. Ed. Tussilago vulgaris C B. Bechium & ungula caballina quibusdam. COLTSFOOT: a low plant, producing

producing early in the spring single stalks, each of which bears a yellow flosculous flower followed by several seeds winged with down: the leaves, which succeed the flowers, are short, broad, somewhat angular, slightly indented, green above, and hoary underneath. It is perennial, and grows wild in moist grounds.

THE leaves and flowers of coltsfoot, in taste somewhat mucilaginous, bitterish, and roughish, and of no remarkable smell, are ranked among the principal pectoral herbs. Infusions of them, with a little liquorice or with the other herbs of similar intention, are drank as tea, and sometimes with considerable benefit, in catarrhus disorders and coughs threatening consumptions.

T U T T I A.

TUTIA *Pb. L. & Ed.* *Tutia alexandrina.* TUTTY: an argillaceous ore of zinc, found in Persia; formed on cylindrical moulds into tubulous pieces like the bark of a tree, and baked to a moderate hardness (*a*); generally of a brownish colour and full of small protuberances on the outside, smooth and yellowish within, sometimes whitish, and sometimes with a bluish cast. Like other argillaceous bodies, it becomes harder in a stronger fire; and after the zinc has been revived and dissipated by inflammable additions, or extracted by acids, the remaining earthy matter affords, with oil of vitriol, an aluminous salt (see *bolus* and *calaminaris*).

TUTTY, levigated into an impalpable powder *, is, like the lapis calaminaris and calces of zinc, an useful ophthalmic, and frequently used as such in ointments and collyria. Ointments for this intention are prepared in the shops, by mixing the levigated tutty with so much vipers fat as is sufficient to reduce it to a due consistence †; or by sprinkling half an ounce of the powder into two ounces of fresh butter and a dram of white wax liquefied together ‡, to which is occasionally added a dram or two of camphor §.

* Tutia
præparata
Pb. L. & Ed.

Ung. tutiæ
† *Pb. Lond.*
‡ *Pb. Ed.*

§ Ung. tutiæ
camphoratum
Pb. Ed.

V A L E R I A N A.

(*a*) The above account of the origin of tutty is supported by the authority of Teixeira and Douglas, and by its chemical properties. That the common opinion, of its being a sublimate produced in the European founderies where zinc is melted with other metals, is erroneous, appears from hence; that tutty is not found, upon strict enquiry, to be known at those founderies; and by its consisting in great part of an earth not capable of rising in sublimation. Thus much, however, is probable, that sublimes or the common ores of zinc are often mixed with argillaceous earths and baked hard, in imitation of the genuine oriental tutty.

V A L E R I A N A.

VALERIANA sylvestris Ph. Lond. *Valeriana sylvestris sive phbu* Ph. Edinb. *Valeriana sylvestris major montana* C. B. WILD

VALERIAN: a plant with channelled stalks; the leaves in pairs; each leaf composed of a number of long narrow sharp-pointed segments, indented about the edges, of a dull green colour, set along a middle rib, which is terminated by an odd one; producing, on the tops of the stalks, umbel-like clusters of small monopetalous flowers, each of which is divided into five segments, set in a very little cup, and followed by a single naked seed winged with down: the root consists of tough strings with numerous smaller threads, matted together, issuing from one head, of a dusky brownish colour approaching to olive. It is perennial, and grows wild in dry mountainous places.

Another species, or variety, of wild valerian, is met with in moist watery grounds, distinguishable by the leaves being broader and of a deep glossy green colour. Both sorts have been used indiscriminately; but the mountain sort is by far the most efficacious, and is therefore expressly ordered for the officinal species by the London college.

THE mountain valerian root has a strong not agreeable smell, and an unpleasant warm bitterish subacid taste: the strength of the smell and taste is the only mark to be depended on of its genuineness and goodness. It is a medicine of great esteem in the present practice against obstinate hemicrania, hysterical, and the different kinds of nervous disorders, and is commonly looked upon as one of the principal antispasmodics. Columna reports, that he was cured by it of an inveterate epilepsy after many other medicines had been used in vain: on more extensive trials it has been found, in some epileptic cases to effect a cure, in several to abate the violence or frequency of the fits, and in many to prove entirely ineffectual: oftentimes, it either purges, or operates by sweat or by urine, or brings away worms, before it prevents a fit. The dose of the root in powder is from a scruple to a dram or two, which may be repeated, if the stomach will bear it, two or three times a day.

The powdered root, infused in water or digested in rectified spirit, impregnates both menstrua strongly with its smell and taste, and tinges the former of a dark brown, the latter of a brownish red colour. Water distilled from it smells considerably of the root, but no essential oil separates though several pounds be submitted to the operation at once:

once: the extract obtained by inspissating the watery infusion, has a pretty strong taste, disagreeably sweetish and somewhat bitterish: the spirituous extract is less disagreeable, and more perfectly resembles the root itself: the quantity of watery extract is about one fourth the weight of the root; of the spirituous, about one eighth. Tinctures of it are prepared in the shops, by digesting four ounces of the powdered valerian in a quart of proof spirit *; in the same quantity of the volatile aromatic spirit †; in three quarts of mountain wine, with the addition of an ounce of Virginian snakeroot and half an ounce of rosemary tops §. The root in substance, however, is generally found to be more effectual than any preparation of it. Among the materials I have made trial of for covering its flavour, mace seemed to answer the best.

Tinct. valer.

* simpl. P. L.

† volat. P. L.

§ Tinctura

cephalica P. E.

V A N I L L A.

VANILLA seu banilia Pharm. Paris. Aracus aromaticus.
 VANELLOE: the fruit of a climbing plant (*volubilis siliquosa mexicana foliis plantaginis Raii hist.*) growing in the Spanish West-Indies. It is a long flattish pod, containing, under a wrinkled brittle shell, a reddish brown pulp, with small shining black seeds.

VANELLOES have an unctuous aromatic taste, and a fragrant smell like that of some of the finer balsams heightened with musk. They are used chiefly in perfumes; scarcely ever, among us at least, in any medicinal intention; though they should seem to deserve a place among the principal medicines of the nervous class. By distillation, they impregnate water strongly with their fragrance, but give over little or nothing with pure spirit: by digestion, spirit totally extracts their smell and taste, and in great measure covers or suppresses the smell.

V E R B A S C U M.

TAPSUS BARBATUS sive verbasum Ph. Ed. Verbasum mas latifolium luteum C. B. Candelaria & lanaria quibusdam. MUL-
 LEIN: a large plant, all over white and woolly; with a single woody stalk, clothed with oblong oval leaves joined to it without pedicles, bearing on the top a long spike of large yellow monopetalous flowers cut into five segments and followed by conical seed-vessels. It is bien-
 nial, grows wild by road-sides, and flowers in July.

M A T E R I A M E D I C A.

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THE leaves of mullein, recommended as mild astringents, have a roughish drying kind of taste, and very little smell. The flowers have also a slight roughishness, with a considerable sweetness.

V E R B E N A.

VERBENA Pharm. Edinb. Verbena communis flore cærulea C.B. Hierobotane, herba sacra, herba cephalalgica & peristerium quibusdam. Vervain: a plant with wrinkled, oblong, obtuse leaves, deeply jagged and indented, set in pairs on the stalks, the upper ones divided into three segments: on the tops of the branches appear irregularly labiated blue flowers, in long spikes, without any leaves among them, followed each by four seeds inclosed in the cup. It is annual, grows wild in uncultivated places, and flowers in July or August.

THIS herb has been celebrated for abundance of virtues, for which its sensible qualities afford little or no foundation. It has no remarkable smell, and hardly any taste.

V E R O N I C A.

VERONICA: a low, somewhat hairy, trailing plant, with firm leaves set in pairs: from the joints arise slender pedicles, bearing spikes of blue monopetalous flowers, each of which is divided, as is the cup, into four segments, and followed by a flat bicellular capsule, which opens at the upper broad part and sheds small brown seeds.

I. *VERONICA MAS sive betonica pauli Pharm. Edinb. Veronica mas supina & vulgatissima C.B. Thea germanica quibusdam.* MALE SPEEDWELL: with crenated leaves of a roundish oval figure; those on the flowering twigs, long, narrow, and not crenated. It is perennial, and grows wild on sandy grounds and dry commons.

THE leaves of veronica have a weak not disagreeable smell, which in drying is dissipated, and which they give over in distillation with water, but without yielding any separable oil. To the taste they are bitterish and roughish: an extract made from them by rectified spirit is moderately bitter and subastringent: the watery extract is weaker, though the quantity of both is nearly the same; whence spirit seems to extract their virtue more completely than water. This herb is of great

M A T E R I A M E D I C A .

great esteem among the Germans; in disorders of the breast both catarrhus and ulcerous, and for purifying the blood and humours: infusions of the leaves, which are not unpalatable, are drank as tea, and are found to operate sensibly by urine.

2. TEUCRIUM *Act. med. berolinensf. Chamædrys spuria major angustifolia C. B.* Mountain speedwell: with sharply serrated leaves of a long oval figure; the lower embracing the stalk by a broad basis. It is a native of Germany.

The leaves and flowers of this species have been greatly commended for dietetic infusions; and said to promote perspiration and urine, to be in general salubrious, and medicinal in several disorders (*a*). Cartheuser observes, that they impart to boiling water a greenish colour, a pleasant balsamic smell, and a much more agreeable taste than the preceding veronica. Among us they have not yet been introduced, nor is the plant common: what has usually been called *teucium* is a plant of another genus, a large species of germander.

V I N C E T O X I C U M .

VINCETOXICUM, *asclepias, hirundinaria, Ph. Ed. Asclepias albo flore C. B.* Swallow-wort, tame-poison: a plant with unbranched stalks; smooth oblong acuminate leaves set in pairs, and clusters of white monopetalous flowers, each of which is divided into five sections, and followed by two long pods full of a white cottony matter with small brownish seeds: the root is large, composed of a great number of slender strings hanging from a transverse head, externally brownish, internally white. It is perennial, grows wild in gravelly grounds in some parts of England, and flowers in July.

THE root of vincetoxicum has when fresh a moderately strong not agreeable smell, approaching to that of wild valerian, which in drying is in great part dissipated: chewed, it impresses first a considerable sweetness, which is soon succeeded by an unpleasant subacid bitterishness: an extract made from it by water, is moderately sweetish, balsamic, and bitterish; the spirituous extract is stronger in taste, proportionably smaller in quantity, and retains a part of the specific flavour of the root. It is recommended as resolvent, sudorific, and diuretic; in catarrhal, cachectic, and scrophulous disorders, and in uterine obstructions; in doses of from a scruple to a dram or more in substance,

(*a*) Gohl, *Acta medica Berolinensf. dec. I. vol. ii. n. 5.*

substance, and three or four drams in infusion. It has been employed by some of the Germans as an alexipharmac, and hence received the name of *contrayerva Germanorum*. Some have however suspected it to possess noxious qualities, and observe that when fresh it excites vomiting. Among us it is scarcely ever made use of in any intention.

V I N U M.

W I N E: the fermented juice of the grape. It differs in colour, flavour, and strength, partly from differences in the grape itself, but chiefly from different managements or additions. Five sorts are employed in the shops as menstrua for medicinal substances: *Vinum album*, Mountain: *Vinum album gallicum*, French white wine: *Vinum canarinum*, Canary or sack: *Vinum rhenanum*, Rhenish: *Vinum rubrum*, red Port.

ALL wines consist of an inflammable spirit, and water, separable by distillation; an unctuous viscid substance, which abounds particularly in the sweet wines, as Canary, and impedes their dissolving power; and an acid, obvious in some to the taste, as in Rhenish, which hence becomes an useful menstruum for some bodies of the metallic kind, particularly iron and the antimonial regulus. In distillation, after the inflammable spirit has arisen, they all yield more or less of a peculiar grateful acid *; a grosser tartareous acid remaining in the still, along with the unctuous and mucilaginous matter. In long keeping, a part of the tartar is thrown off from the wine, and incrustates the sides of the cask.

* Media substantia vini
Beccheri.

Wine, considered as a medicine, is a valuable cordial in languors and debilities; more grateful and reviving than the common aromatic infusions and distilled waters, particularly useful in the low stage of malignant or other fevers, for raising the pulse and supporting the vis vitæ, promoting a diaphoresis, and resisting putrefaction. Dietetically, its moderate use is of service to the aged, the weak, and the relaxed, and to those who are exposed to warm and moist or to corrupted air: in the opposite circumstances, it is less proper, or prejudicial. Externally, it is used as a corroborant, antiseptic, and antiphlogistic fomentation.

The acid obtained from wine by distillation, apparently of a different nature from the acetous as well as from the native vegetable acids, seems to deserve some regard, both as a medicine, and as

a more elegant menstruum, for iron and some other bodies, than the common acids.

With regard to the medical differences of wines, it may be observed, that the effects of the full-bodied are much more durable than those of the thinner: that all sweet wines are in some degree nutritious; the others not at all, or only accidentally so, by promoting appetite and strengthening the organs concerned in digestion: that sweet wines in general do not pass freely by urine, and that they heat the constitution more than an equal quantity of any other though containing full as much spirit: that those which are manifestly acid pass freely by the kidneys, and gently loosen the belly; and that most of the red ones are subastringent and tend to restrain immoderate excretions.

V I O L A.

VIOLA Pb. Lond. *Viola martia* Pb. Ed. *Viola martia purpurea flore simplici* odor C. B. *Violaria*. *VIOLET*: a low creeping plant, without any other stalk than the pedicles of the leaves and flowers: the leaves are roundish, somewhat heart-shaped, obtusely crenated about the edges: the flower consists of five irregular petals, of the deep purplish blue called, from the name of the plant, violet colour: the fruit is a little capsule divided into three cells, full of small roundish seeds. It is perennial, grows wild in hedges and shady places, and flowers in March.

The flowers of a different species, greatly inferior to the above, are frequently substituted in our markets. This sort may be readily distinguished; the herb, by its having stalks, which trail on the ground and bear both leaves and flowers, and by the young leaves being hairy; the flowers, by the three lower petals being spotted with white, and by their want of smell.

THE officinal violet flowers have a very agreeable smell, and a weak mucilaginous bitterish taste. Taken to the quantity of a dram or two, they are said to be gently laxative or purgative; and the seeds, which have more taste than the flowers, to be more purgative and sometimes emetic. The flowers give out to water both their virtue and their fine colour, but scarcely impart any tincture to rectified spirit, though they impregnate the spirit with their fine flavour and probably also with their purgative quality. An infusion of two pounds of the fresh flowers in five * or six † pints of boiling water, passed through a fine linen

Syr. violar.

* Pb. Lond.

† Pb. Edinb.

linen cloth without pressure, is made in the shops into a syrup, which proves an agreeable laxative for children. Both the flowers themselves and the syrup lose their colour in being long kept: acids change them instantly to a red; alkalies, and sundry combinations of acids with earthy and metallic bodies, to a green: perfect neutral salts, or those compounded of an acid and alkali, make no alteration. Some have been accustomed to communicate to syrups a violet colour with materials of greater durability than the violet itself or than any other blue flower: these sophisticated preparations may be distinguished by their colour withstanding alkalies and acids.

V I P E R A.

VIPERA *Pb. L. & Ed.* THE VIPER OR ADDER: a viviparous reptile, about an inch or less in thickness, and twenty or thirty in length, with a small sharp-pointed tail. It is found in the heat of summer, under hedges in unfrequented places; and in winter retires into holes in the earth.

The poison of this serpent is confined to its mouth. At the basis of the phangs or long teeth which it wounds with, is lodged a little bag containing the poisonous liquid; a very minute portion of which, if mixed immediately with the blood, proves fatal; though it does not appear to be pernicious when swallowed, provided there is no solution of continuity in the parts which it comes in contact with (a). Our viper-catchers are said to prevent the mischiefs otherwise following from the bite, by rubbing oil olive warm upon the part.

The flesh of the viper is perfectly innocent, and has been greatly commended as a medicine in sundry disorders. It appears to be very nutritious, and hence an useful restorative in some kinds of weaknesses and emaciated habits: but in scrophulous, leprous, and other like distempers, the good effects, which have been ascribed to it, are more uncertain: I have known a viper taken every day for above a month, in disorders of the leprous kind, without any apparent benefit. The form in which they are used to best advantage, is that of broth, of which an elegant preparation is directed by the London college*: that the wines (made commonly by macerating for a week, with a gentle heat, two ounces of the dried flesh in three pints of mountain†) have any great virtue, cannot perhaps be affirmed from fair experience.

* Jus viperinum *P. L.*

† Vinum viperinum *P. L.*

The

(a) See Dr. Mead's Mechanical account of poisons, essay i.

The fat of the viper is accounted particularly useful in disorders of the eyes; but what advantages it has above other soft fats, is by no means clear: see *pinguedo*. It was formerly supposed to have some specific power of resisting the poison of the viper's bite, by being rubbed immediately on the part; but experience has now shewn that common oil is in this intention of equal efficacy.

V I R G A A U R E A.

VIRGA AUREA Ph. Ed. *Virga aurea angustifolia minus serrata* C. B. *Herba doria* & *consolida saracenica quibusdam*. GOLDEN ROD: a plant with long somewhat oval leaves, pointed at both ends, slightly or not at all indented; and upright spikes, along the stalks, of small yellow flowers, composed of several flosculi set in scaly cups, followed by small seeds winged with down. It is perennial, grows wild in woods and on heaths, and flowers in August.

THE leaves and flowers of golden rod are recommended as corroborants and aperients; in urinary obstructions, nephritic cases, ulcerations of the bladder, cachexies, and beginning dropsies. Their sensible qualities promise considerable medical activity: their taste, which they readily impart both to water and rectified spirit, and which remains entire in the inspissated extracts, is of a subtile penetrating durable kind, not very ungrateful, weak in the herb in substance, strong in the watery extract, and stronger in the spirituous.

V I S C U S.

VISCUS QUERNUS Ph. Ed. *Viscum baccis albis* C. B. MISSELTOE: a bushy evergreen plant; with woody branches variously interwoven; firm narrow leaves, narrowest at the bottom, set in pairs; and imperfect white flowers in their bosoms, followed each by a transparent white berry containing a single seed. It grows only on the trunks and branches of trees, and may be propagated by rubbing the glutinous berries on the bark that the seeds may adhere.

THE leaves and branches of misseltoe, formerly recommended as specifics in convulsive and other nervous disorders, and now fallen into general neglect, do not appear to have any considerable medicinal power. Instances have indeed been produced of their seeming to prove beneficial: but as there are, perhaps, no disorders, whose nature is so little

little understood, whose causes are so various, and whose mitigations and exasperations have less dependence upon sensible things; there are none in which medicines operate more precariously, and in which the observer is more liable to deception.

Half a dram or a dram of the wood or leaves in substance, or an infusion of half an ounce, the doses commonly directed, have no sensible effect. Both the leaves and branches have very little smell, and a very weak taste, of the nauseous kind. In distillation they impregnate water with their faint unpleasant smell, but yield no essential oil. Extracts made from them by water are bitterish, roughish, and subsaline: the spirituous extracts, in quantity smaller than the watery, are in taste stronger, nauseous, bitterish, and subaustere: the spirituous extract of the wood has the greatest austerity, and that of the leaves the greatest bitterishness. The berries abound with an extremely tenacious, not ungrateful, sweet mucilage.

V I T R I O L U M.

VITRIOLUM & *calcanthum* *Pb. Paris.* VITRIOL: a saline crystalline concrete, composed of metal united with a certain acid called the vitriolic acid. There are three metals with which this acid is found naturally combined, zinc, copper, and iron: with the first it forms a white, with the second a blue, and with the third a green salt.

I. *VITRIOLUM ALBUM Pb. L. & Ed.* White vitriol, or vitriol of zinc; found in the mines of Goslar, sometimes in transparent pieces, more commonly in white efflorescences; which are dissolved in water, and crystallized into large irregular masses somewhat resembling fine sugar; in taste sweetish, nauseous, and styptic.

The common white vitriol of the shops contains a quantity of ferrugineous matter; of which, in keeping, a part is extricated from the acid, in an ochery form, so as to tinge the mass of a yellow hue. On dissolving the whitest pieces in water, a considerable portion of ochre immediately separates: the filtered solution, transparent and colourless, becomes again turbid and yellow on being made to boil, and deposits a fresh ochery sediment; and a like separation happens, though much more slowly, on standing without heat. Hence, when the solution is evaporated to the usual pitch, and set to crystallize, the crystals* generally prove foul; unless some fresh acid be added (as an

* *Vitriolum purificatum, vulgo gilla vitrioli P. E.*

† Sal vitrioli
Ph. Lond.

ounce of the strong spirit or oil of vitriol to a pound of the salt *) to keep the ferrugineous matter dissolved: this addition both secures the whiteness of the crystals, and prevents their growing soon yellow in the air. White vitriol generally contains also a small portion of copper, distinguishable by the cupreous stain which it communicates to polished iron immersed in solutions of it or rubbed with it in a moist state. The quantity of this metal is so exceedingly minute, that it is not, perhaps, of any inconvenience in any of the intentions for which white vitriol is employed: the separation, if it should be thought necessary, may be effected, by boiling the solution for some time, along with bright pieces of iron, which will extricate all the copper; by continued or repeated coction, greatest part of the ferrugineous matter also may be separated.

† Aqua
vitriolica
P. E.

† Aq. alumi-
nosa bateana
P. L.

White vitriol is sometimes given, from five or six grains to half a dram and more, as an emetic; and appears to be one of the quickest in operation of those that can be used with safety. Externally, it is employed as a cooling restraining and desiccative: a dilute solution of it, of a dram for instance in a pint of water †, is an excellent collyrium in defluxions and slight inflammations of the eyes, and, after bleeding and purging, in the more violent ones: a solution of it with alum, in the proportion of two drams of each to a pint of water ‡, is used as a repellent fomentation for some cutaneous eruptions, for cleansing foul ulcers, and as an injection in the fluor albus and gonorrhœa when not accompanied with virulence. This vitriol is sometimes likewise employed as an errhine, and said to be a very effectual dissolvent of mucous matters; in which intention it is recommended, in the German ephemerides, against obstructions of the nostrils in new-born infants.

2. VITRIOLUM CÆRULEUM Ph. Lond. *Vitriolum cæruleum* & *vitriolum romanum* Ph. Ed. Blue vitriol or vitriol of copper, commonly called Roman or Cyprian vitriol or blue-stone. This kind of vitriol is in many places produced from sulphureous ores of copper: the acid of sulphur is no other than the vitriolic; and the inflammable principle of the sulphur being dissipated either by fire or by a spontaneous resolution of the mineral, the acid remains combined with the copper (see *pyrites*): the vitriol, now formed, is either extracted by the application of water, or washed out by rain or subterraneous waters: hence in some copper mines are found blue waters, which are true vitriolic solutions of copper, and which deposite that metal on the addition of iron or of any other substance which the acid more strongly attracts

attracts. The greatest part of the blue vitriol, now met with in the shops, is prepared in England, by artificially combining copper with sulphur or its acid.

The vitriol of copper is of an elegant sapphire blue colour; hard, compact, and semitransparent; when perfectly crystallized, of a flatish, rhomboidal, decahedral figure; in taste extremely nauseous, styptic and acrid. Exposed to a gentle heat, it first turns white, and then of a yellowish red or orange colour: on increasing the fire it parts, difficultly, with its acid, and changes at length to a very dark red calx reducible, by fusion with inflammable fluxes, into copper.

This salt, like the other preparations of copper, acts, in doses of a few grains, as a most virulent emetic. Its use is only external, as a detergent, escharotic, and for restraining hemorrhagies: for which last intention, a strong styptic liquor is prepared in the shops, by dissolving three ounces of blue vitriol and two of alum in a pint and a half of water, then adding two ounces of oil of vitriol, and filtering the mixture for use *.

* Aqua vitriolice cærulea
Ph. Lond.

3. VITRIOLUM VIRIDE *Ph. Lond. & Ed.* Green vitriol or vitriol of iron; commonly called English vitriol or copperas; the Roman vitriol of the Italian writers. This sort of vitriol is produced from sulphureo-ferrugineous pyritæ, as the blue from sulphureo-cupreous ones; and as the ferrugineous minerals are much easier of resolution than the others, the ferrugineous vitriol is much oftener found native. In this native state, neither sort is free from an admixture of the other; the native green vitriols having always more or less of a bluish cast, and the blue of a greenish. The finest green vitriol is prepared in large quantity at Deptford near London, by adding iron to the acid liquor, which runs from certain pyritæ after long exposure to the air: this vitriol appears to be purely martial, for if it should receive any cupreous particles from the mineral, the super-added iron would precipitate them. All vitriols may be freed perfectly from copper by adding iron to solutions of them: those, which contain even a small portion of that metal, readily discover it by staining the iron of a copper hue.

Pure vitriol of iron is considerably transparent; of a fine bright, though not very deep, grass green colour; of a nauseous astringent taste accompanied with a kind of sweetishness. Dissolved, and set to crystallize, it shoots into thick rhomboidal masses; a part generally rising at the same time in efflorescences about the sides of the vessel. The solution deposites in standing a considerable quantity, and in boiling

a much larger one, of the metallic basis of the vitriol, in form of a rusty calx or ochre : iron seems to be the only metallic body that thus separates spontaneously, in any considerable quantity, from the vitriolic acid. On exposing the vitriol itself to a moist air, a similar resolution happens on its surface ; which, sooner or later, according as the acid is more or less saturated with the metal, changes its green to a rusty hue. In a warm dry air, it loses a part of the phlegm or water necessary to its crystalline form, and falls by degrees into a white powder. Exposed to a gentle fire, it liquefies and boils up ; but soon changes, on the exhalation of the watery part that rendered it fluid, to a solid, opake, whitish or grey mass : this, pulverised and urged with a stronger fire, continues to emit fumes, becomes yellow *, afterwards red, and at length, having parted with most of its acid as well as its phlegm, turns to a deep purplish-red calx †, revivable by inflammable substances into iron.

* Vitriolum
calcinatum
P. L. & Ed.

† Colcothar
vitrioli
P. L. & E.
Chalcitis
fascitia
Pb. Parif.

Pure green vitriol is in no respect different from the artificial *sal martis* ; see *ferrum*. It is one of the most certain of the chalybeate medicines, scarcely ever failing to take effect where the calces and other indissoluble preparations pass inactive through the intestinal tube. It may be conveniently given in a liquid form, largely diluted with aqueous fluids : two or three grains or more, dissolved in a pint or a quart of water (which from this quantity receives no disagreeable taste) may be taken in a day, divided into different doses. This vitriol is used also, especially when calcined, as an external styptic : the styptic of Helvetius, and as is said that of Eaton, is no other than French brandy very slightly impregnated with the calcined vitriol : a dram of the vitriol is commonly directed to a quart ‡ of the spirit, but only a minute portion of the dram dissolves in it. As French brandy has generally an astringent impregnation from the oaken casks in which it has been kept, the vitriol changes it, as it does the watery infusions of vegetable astringents, to a black colour ; but makes no such change in spirituous liquors that have not received some astringent tincture.

‡ Tinctura
styptica
P. L.

It is from the green vitriol that the acid called vitriolic has been generally extracted ; by distilling the calcined vitriol in earthen long-necks, with a strong fire continued for two days or longer. The distilled spirit appears of a dark blackish colour ; and contains a quantity of phlegm, greater or less according as the vitriol has been less or more calcined. On committing it a second time to distillation, in a glass retort placed in a sand-heat, the phlegmatic parts rise first, together with

with a portion of the acid, and are kept apart under the name of *spirit* or *weak spirit* of vitriol * : at the same time the remaining *strong spirit*, or *oil* as it is called, loses its black colour and becomes clear †, and this is the usual mark for discontinuing the rectification.

The strong acid or oil of vitriol is the most ponderous of unmetallic fluids, and the most fixed of saline ones, yielding no smell in the greatest heat of the atmosphere, and requiring, to make it boil or distil, a heat considerably greater than that in which lead melts. Exposed to the air, it imbibes its humidity, so as to gain by degrees an increase of about twice its own weight. Mixed directly with water, it produces a heat so great as to render the vessel insupportable to the hand: glass vessels are apt to crack from the suddenness of the heat, unless the commixture is very slowly performed. The most ready method of distinguishing it, in a dilute state, or when mixed with other acids, is by adding a solution of some calcareous earth, as chalk, made in any kind of acid liquor: this solution is by a minute portion of the vitriolic acid rendered milky, but suffers no change from any other species of acid; see *selenites*.

If the long-neck, in the extrication of the acid from vitriol, happens to crack in the fire, the acid that rises after this period is found remarkably changed ‡. It emits in the air suffocating vapours like the fumes of burning brimstone, and rises in distillation with a heat not much greater than that which the hand can bear: to the taste it discovers little corrosiveness or acidity. Combined with alkaline salts, it loses its pungent odour; but on the addition of any other acid, it is disengaged from the alkali, so as to rise again in distillation as volatile and suffocating as before. It destroys or whitens the blue and red colours of the flowers of plants; whereas, in its fixt state, like the other acids, it changes the blue to red and heightens those which are naturally red. This volatile spirit loses its suffocating odour, and resumes its corrosiveness, fixedness, and other qualities, by exposure to the air, which seems to carry off the inflammable principle whereon its volatility depended.

The fumes of burning brimstone are no other than the vitriolic acid in its volatile state; see *sulphur*. If a little burning sulphur be suspended over some water in a close vessel till the fumes subside, and this repeated with fresh portions of sulphur, till about half a pound has been used to a quart of water §, the liquor will be found strongly impregnated with the volatile suffocating acid, and in keeping for some time, if the vessel is not closely stopt, it will become exactly similar

* Spirit. vitrioli P. E.

Sp. vitrioli tenuis P. L.

† Oleum vitrioli Ph. Ed.

Sp. vitrioli fortis P. Lond.

‡ Spir. vitrioli volatilis Stahl.

§ Aqua sulphurata P. L.

Gas sulphuris vulgo.

* Spir. sulph.
per campanam P. L.
& E.

similar to water acidulated with the fixt acid. If a very large glass, open at bottom, be hung over the burning sulphur, in a damp place screened from wind, a part of the fumes will condense upon the sides of the glass, and run down in drops, which may be collected by placing a glass dish underneath: the acid thus obtained is called, from the shape of the vessel that has been generally used for condensing the fumes, spirit or oil of sulphur by the *bell**. The quantity of acid collected by this process is very small, greatest part of the fumes escaping: sixteen ounces of sulphur, in the most favourable circumstances, yield scarcely one ounce of phlegmatic spirit; though it is certain, that out of this quantity of sulphur, more than fifteen ounces are pure acid, of such strength, as to require being diluted with above an equal quantity of water to reduce it to the pitch of common spirit of sulphur; so that if sulphur could be burnt without the loss of any of its fumes, we might obtain double its weight of an acid of the ordinary strength. The process has lately been improved, by some particular persons, though not perhaps to this degree, yet so far as to afford at a very low price almost all the acid now sold under the name of oil of vitriol. The improvement consists in burning the sulphur in very large glass vessels, in the bottoms of which some warm water is placed, whose steam serves to collect and condense the fumes; and in mixing with the sulphur a small portion of nitre, which enables it to burn without communication with the atmosphere.

† Elixir
vitrioli P. E.

THE acid of vitriol or sulphur, largely diluted so as to be supportable or but gratefully tart to the palate, is the most salubrious of all the mineral acids. It is mixed with watery infusions, spirituous tinctures and other liquids, as an antiphlogistic; as a restraining in hemorrhages; and as a stomachic and corroborant in weakneses, loss of appetite, and decays of constitution, accompanied with slow febrile symptoms, brought on by irregularities, or succeeding the suppression of intermittents by Peruvian bark. In several cases of this kind, after bitters and aromatics of themselves had availed nothing, a mixture of them with the vitriolic acid has happily taken place: the form commonly made use of is that of a spirituous tincture: six ounces of oil of vitriol are dropt by degrees into a quart of rectified spirit of wine, the mixture digested for three days in a very gentle heat, and afterwards digested for three days longer with an ounce and a half of cinnamon, an ounce of ginger, and half an ounce of the dry leaves of peppermint †; or a pint of an aromatic tincture drawn with proof spirit is mixed

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mixed with four ounces of the strong acid *: these liquors are given from ten to thirty or forty drops, in any convenient vehicle, at such times as the stomach is most empty. A mixture of oil of vitriol with spirit of wine alone, in the proportion of one part of the former to three of the latter, digested together for some time †, is used in France as a restringent in gonorrhœas, female fluors, and spittings of blood.

* Elix. vitrioli acidum
Ph. Lond.

† Aqua rabelliana vulgo
Eau de Rabel.
Ph. Paris.

When oil of vitriol and rectified spirit of wine are long digested together or distilled, a part of the acid unites with the vinous spirit into a new compound, very volatile and inflammable, of no perceptible acidity, of a strong and very fragrant smell, and an aromatic kind of taste: this dulcified part, more volatile than the rest, separates and rises first in distillation, and may thus be collected by itself. The college of London directs a pound of oil of vitriol and a pint of rectified spirit of wine to be cautiously and gradually mixed (a great conflict and heat ensuing if they are mixed hastily) and set to distil with a very gentle heat: that of Edinburgh orders the same quantity of the oil of vitriol to be dropt into four times as much of the vinous spirit, and the mixture to be digested in a close vessel, for eight days, previously to the distillation, with a view to promote the coalition of the two ingredients. The different proportions of the acid spirit to the vinous, in these prescriptions, make no material variation in the qualities of the product, provided the distillation is duly conducted; for the smallest of the above proportions of acid is much more than the vinous spirit can dulcify, and all the redundant acid remains in either case behind. The true dulcified spirit rises in thin subtile vapours, which condense upon the sides of the recipient in streight striæ: these are succeeded by white fumes, which form either irregular striæ or large round drops like oil; on the first appearance of which, the process is either to be stopt, or the receiver changed. The spirit which these fumes afford, very different from the dulcified one, has a pungent acid smell like the fumes of burning sulphur: on its surface is found a small quantity of oil ‡, of a strong penetrating and very agreeable smell, readily dissoluble in spirit of wine, to a large proportion of which it communicates the smell and taste of the aromatic or dulcified spirit. The college of Edinburgh, in order to secure against any acidity in the dulcified spirit, order it to be rectified, by mixing it with an equal measure of water in every pint of which a dram of salt of tartar has been dissolved, and drawing off the spirit again by a gentle heat.

Spiritus vitrioli dulcis.

‡ Ol. vitrioli dulce *Hoffm.*

This spirit, taken from ten to eighty or ninety drops, strengthens the stomach and digestive powers, relieves flatulencies, promotes urine,

Liquor anody-
nus minera-
lis Hoffmanni.

urine, and in many cases abates spasmodic strictures and procures rest. It is not essentially different from the celebrated mineral anodyne liquor of Hoffmann; to which it is frequently, by the author himself, directed as an alternative. It is evident, from Hoffmann's writings, that his anodyne was composed of the dulcified spirit and the aromatic oil which comes over after it, but the particular proportions of the two he has no where specified: the faculty of Paris directs, under the title of his preparation, twelve drops of the oil to be dissolved in two ounces of the spirit; the college of Wirtemberg seems to think, that all the oil, and all the spirit, obtained in one operation, were mixed together, without regard to the precise quantities.

* Elix. vitri-
oli dulce P.L.

The dulcified spirit is sometimes used as a menstruum for certain resinous and bituminous bodies, which are more difficultly and languidly acted upon by pure vinous spirits. It is often mixed with aromatic and stomachic tinctures, in cases where the stomach is too weak to bear the acid elixirs abovementioned: eight ounces are commonly added to a pint of the officinal aromatic tincture *, in which it does not, like the acid undulcified, occasion any precipitation. A medicine of this kind was formerly in great esteem under the name of Vigani's volatile elixir of vitriol, the preparation of which was long kept a secret, and first made publick in the *pharmacopœia reformata*: it is prepared by macerating, in some dulcified spirit of vitriol free from acidity, a small quantity of mint leaves curiously dried, till the spirit has acquired a fine green colour: to prevent the necessity of filtration, during which the more volatile parts would exhale, the mint may be suspended in the spirit in a fine linen cloth.

† Spirit. vini
æthereus
P. Ed.

If the dulcified spirit, rectified as above prescribed from a solution of fixt alkaline salt, be shaken with equal its quantity of a like solution, and the mixture suffered to rest; an ethereal fluid † rises to the surface, and great part of the dulcified spirit may be recovered again from the remainder by distillation. I am informed by Dr. Hadley, that he has observed the largest proportion of ether to be obtained, by using the strongest vitriolic acid of the shops with twice its quantity of spirit of wine, and distilling immediately by a heat sufficient to make the mixture boil; and that by this management, from three pounds of oil of vitriol and six pints of rectified spirit of wine, he obtained two pints and a half of the ether.

The ether or ethereal spirit is the lightest, most subtile, volatile, and inflammable, of all known liquids: it quickly exhales in the air, diffusing an odour of great fragrance: it does not mingle with water, with

acid liquors, with alkaline liquors, or with vinous spirits, but dissolves oils, balsams, and resins, and extracts the oily and resinous parts of vegetables. It has been hitherto regarded chiefly as a matter of curiosity, nor are its medicinal qualities as yet much known. Malouin looks upon it as one of the most perfect tonics, friendly to the nerves, cordial and anodyne; and says he has found it to be a good remedy in rheums, for abating coughs, especially those of the convulsive kind. Its great volatility renders the taking of it very inconvenient: the author abovementioned orders, as the most convenient form, from three to twelve drops to be dropt on sugar or powdered liquorice, a little warm water or some warm infusion to be immediately added, and the whole swallowed directly. It has been reported to give immediate ease in violent headaches, by being rubbed on the temples.

THE vitriolic acid saturates a larger quantity of fixt alkaline salts than any of the other acids, and dislodges therefrom such other acids as have been previously combined with them: of the strong spirit or oil of vitriol, about five parts are sufficient for eight of the common vegetable fixt alkalies. The neutral salt, resulting from its coalition with this kind of alkali, is of a bitterish taste, very difficultly soluble in water, and scarcely fusible in the fire: in small doses, as a scruple or half a dram, it is an useful aperient; in larger ones, as four or five drams, a mild cathartic, which does not pass off so hastily as the *sal catharticus*, and seems to perform its office more thoroughly. This salt has been commonly prepared with the alkali obtained from tartar, and is hence called vitriolated tartar: some dilute the oil of vitriol with an equal quantity of warm water, and drop into it a solution of the alkaline salt till a fresh addition occasions no further effervescence*: others, instead of the pure acid, use vitriol in substance, which being dissolved in boiling water, any alkaline salt, gradually superadded till the effervescence ceases, absorbs the pure acid, and throws down the metallic basis of the vitriol; one part of the alkali is nearly sufficient for two of the vitriol†: This last method, more troublesome than the other in regard to the preparation, more effectually secures the medicine from a redundance of acidity. The wholesale dealers substitute for this salt that which remains after the extraction of the acid of nitre by means of oil of vitriol, which, when duly prepared, is exactly the same (see *nitrum*): but as they commonly employ in that process an over-proportion of the vitriolic acid, and vend the remaining salt uncrystallized, we often meet with it so very acid as to be utterly unfit for use.

Tartarum
vitriolatum,

Sal enixum &
Arcanum du-
plicatum
quibusdam,

* *Ph. Edinb.*

† *Ph. Lond.*

With.

With the mineral fixt alkali, and the earth called magnesia, this acid forms compound salts of a bitterer taste, somewhat less purgative, and much easier of solution, than that with vegetable alkalies (see page 491): with volatile alkalies a very pungent ammoniacal salt, whose medicinal effects are not well known. The strong acid, boiled on argillaceous earths to dryness, corrodes a portion of them, and concretes therewith into an austere styptic salt (see page 142). Calcareous earths it does not dissolve into a liquid state, but may be combined with them, by precipitation from other acids, into an indissoluble concrete seemingly of no medicinal activity (see page 519). Among metallic bodies, it dissolves zinc and iron readily; copper, silver, quicksilver, lead, and tin, very difficultly: it is fitted for acting on the two first by dilution with three or four times its quantity of water: the others require the undiluted acid, and a heat sufficient to make it boil; when, the more phlegmatic parts exhaling, so much of the pure acid matter remains combined with the metals, as to render them, in part at least, dissoluble in water; see the respective metals.

THE medical qualities of the acid in its volatile state are very little known, and those of the combinations thereof with alkalies not at all, though they should seem to deserve enquiry. The volatile acid of burning brimstone may be commodiously transferred into fixt alkalies, by dipping linen clothes in a strong solution of the alkali and suspending them over the fumes, of which they will quickly imbibe so much as to neutralize the alkali: this neutral salt being rubbed off, the clothes may be again moistened with the alkaline ley, exposed to the acid fumes, and these processes alternately repeated (*a*). The neutral salt thus obtained differs greatly in its taste and other properties, and doubtless also in its medical virtues, from that which is produced by the coalition of the fixt acid with the same alkali, that is from vitriolated tartar. It dissolves more easily in water, and shoots, not into octangular crystals, but into small slender ones like short needles. On adding to it the fixt vitriolic acid (or even the weaker acids of nitre or sea salt) the volatile acid is disengaged from the alkali; and though, in the compound salt, its pungent smell was wholly suppressed, it now rises in distillation as pungent and suffocating as the original fumes of the brimstone. The neutral salt, in a dry form, may be kept unchanged for years: dissolved in water and exposed for some time to the air, or if roasted with a gentle heat, it becomes the same with vitriolated tartar.

(*a*) *Vide Stahl's Experimenta & animadversiones ccc.*

U L M A R I A.

U L M A R I A.

ULMARIA *five regina prati* Ph. Edinb. *Barba capræ floribus compactis* C.B. MEADOWSWEET or QUEEN-OF-THE MEADOWS: a plant with tall, smooth, reddish, brittle stalks; and oval, sharp-pointed, indented leaves, set in pairs along a middle rib, with smaller pieces between, and at the end a larger odd one divided into three sections, wrinkled and green above, white underneath: on the tops come forth large thick clusters of little whitish flowers, followed each by several crooked seeds set in a roundish head. It is perennial, common in moist meadows, and flowers in June.

THE leaves of ulmaria recommended as mild restringents, discover to the taste or smell very little foundation for any medical virtues. The flowers have a strong and pleasant smell, in virtue of which they are supposed to be antispasmodic and diaphoretic, and which in keeping is soon dissipated, leaving in the flowers only an insipid mucilaginous matter. As these flowers are more rarely used in medicine than their fragrant smell might rationally persuade, Linnæus suspects that the neglect of them has arisen from the plant being possessed of some noxious qualities, which it seemed to betray by its being left untouched by cattle: it may be observed, however, that the cattle, which refused the ulmaria, refused also angelica, and other herbs, whose innocence is apparent from daily experience.

U L M U S.

ULMUS Pharm. Edinb. *Ulmus campestris* & *theophrasti* C.B. ELM: a tall common tree; covered with a rough, chapt, brownish, brittle bark, under which lies a white, smooth, tough, coriaceous one; producing in the spring, before the leaves appear, imperfect flowers, followed by flat roundish capsules containing each a single seed.

THE inner tough bark of the elm tree, of no manifest smell, discovers, on being chewed, a copious slimy mucilage, of no particular taste: the outer brittle bark is much less slimy, but equally void of smell and taste. It may therefore be presumed, that if elm-bark has been found of use in nephritic cases, in which it is recommended by authors; or externally against burns, for which it is applied by the common people; it was of use no otherwise than as a simple emollient.

Neither the purgative virtue ascribed to it by some, nor the astringent by others, appear to have any foundation.

U R I N A .

URINA Pb. Paris. URINE. The recent urine of healthful subjects is nauseously bitter, very saline, scarce manifestly alkaline or acid. As soon as it begins to putrefy, it emits volatile alkaline vapours; and if distilled, when moderately putrefied, by a gentle heat, it yields a concrete volatile alkaline salt: as volatile alkalies have a strong antiseptic power, the vapours of putrefied urine are not observed, like those of cadaverous animal substances, to be productive of putrid diseases. A pungent caustic volatile spirit may likewise be obtained from recent urine, by inspissating, and then distilling it with the addition of quicklime.

* Sal micro-
cosmicum, *five*
sal essentielle
urinæ.

If the putrefied urine be slowly inspissated, in glass or stone-ware vessels, to the consistence of a thin syrup, and set for some weeks in a cold place, brown crystals will shoot from it, consisting partly of marine salt, and partly of a salt of a peculiar kind, which shoots before the marine, and which, by repeated solutions, filtrations, and crystallizations, may be purified both from that salt and from the adhering oil. In this state *, it appears perfectly neutral, and impresses on the tongue a sense of coolness with a slight bitterishness: laid on a red hot iron, it bubbles, emits volatile alkaline vapours, and runs into a colourless pellucid substance resembling fine glass: this apparent glass is manifestly acid, though but weakly so, dissolves in water, neutralizes alkaline salts, and with volatile alkalies regenerates the original neutral salt. One of its most distinguishing characters is, that a mixture of it with inflammable matters, as soot or powdered charcoal, on being heated to ignition in an open vessel, emits flashes like lightening, and, on being distilled in a retort with a moderately strong fire, yields the highly inflammable concrete called phosphorus.

Urine is sometimes applied externally, boiled with bran, as a resolvent and discutient, in which intentions it is said to be very efficacious. Recent cows urine has been drank in the spring, to the quantity of a pint or more every morning, for several days, as an attenuant and deobstruent in different disorders: the nauseous draught purges plentifully by stool, and sometimes vomits. The peculiar salt of urine is but of late discovery, and its medicinal qualities are as yet unknown.

U R T I C A.

URTICA major vulgaris Pharm. Edinb. *Urtica urens maxima C. B.* COMMON STINGING NETTLE.---Infusions and decoctions of this herb, or its expressed juice, are recommended in different disorders as aperients, and said to loosen the belly: the juice, depurated and gently inspissated, discovers a considerable taste, of the subsaline kind.

U V Æ P A S S Æ.

RAISINS: rich sweet grapes, dried by the sun's heat in the warmer parts of Europe. Two sorts are directed for medicinal use. 1. *UVÆ PASSÆ MAJORES Ph. Lond. & Ed.* raisins of the sun; the fruit of the *vitis damascena* dried upon the tree; the stem of each cluster, when the grapes are ripe, being cut almost through, so as to prevent the afflux of any fresh juice. 2. *UVÆ PASSÆ MINORES seu CORINTHIACÆ Ph. Edinb.* currants; the fruit of the *vitis corinthiaca* picked from the stalks.

THESE fruits are used as agreeable lubricating acescent sweets, in pectoral decoctions, and for obtunding the acrimony of other medicines and rendering them acceptable to the palate and stomach: the first sort inclines most to acidity, the sweetness of the latter being more of the mucilaginous kind. They both give out their sweetness and their pleasant flavour to water and to spirit: the stones or seeds are supposed to communicate a disagreeable relish, and hence are generally directed to be taken out; but it did not appear on trial that they give any taste at all to water, proof spirit, or rectified spirit.

W I N T E R A N U S C O R T E X.

WINTERANUS cortex Ph. Edinb. *Cortex magellanicus.* WINTER'S BARK: the bark of a middle-sized tree (*laurifolia magellanica cortice acri C. B.*) said to have bay-like leaves, and flowers like those of the honeysuckle, and to grow in Jamaica, Barbadoes, and other parts of America. The bark is brought over in pretty thick pieces, rolled up into quills; externally of an ash-colour, fungous, uneven, and full of clefts; internally compact, and of a reddish-yellow or rusty hue.

M A T E R I A M E D I C A.

THIS bark was discovered on the coast of Magellan, by captain Winter, in 1567: the sailors then employed it as a spice, and afterwards found it serviceable in the scurvy; against which it is still, in some places, made an ingredient in diet-drinks. Among us, it is rarely to be met with; canella alba being generally substituted to it in the shops, and by many reckoned to be the same. There is, nevertheless, a considerable difference betwixt them both in appearance, and in quality: the Winters-bark is in larger pieces than the canella, of a more rugged surface, and deeper colour: its smell is more agreeable; its taste warmer, more pungent, and less bitter.

Z E D O A R I A.

Z E D O A R I A Pharm. Lond. & Edinb. *Zedoaria longa* & *Zedoaria rotunda* C. B. ZEDOARY: the root of an Indian plant of

* Zerumbeth
Pb. Paris.

which we have no certain account; brought over in oblong pieces, about the thickness of the little finger and two or three inches in length; or in roundish ones * about an inch in diameter; of an ash-colour on the outside, and white within. The long sort is said by some to be the strongest, but the difference, if any, is very inconsiderable, and hence the college allows both to be used indiscriminately.

THIS root has an agreeable smell, and a bitterish aromatic taste. It impregnates water with its smell, a slight bitterness, a considerable warmth and pungency, and a yellowish brown colour: the reddish-yellow spirituous tincture is in taste stronger, and in smell weaker, than the watery. In distillation with water, it yields a thick ponderous essential oil, smelling strongly of the zedoary, in taste very hot and pungent: the decoction, thus deprived of the aromatic matter, and concentrated by inspissation, proves weakly and disagreeably bitter and subacid. A part of its odorous matter rises also in the inspissation of the spirituous tincture: the remaining extract is a very warm, not fiery, moderately bitter aromatic, in flavour more grateful than the zedoary in substance.

Zedoary root is a very useful warm stomachic. It was employed by some as a succedaneum to gentian root; at a time when a poisonous article, mixed with the gentian brought from abroad, rendered its use hazardous: but from the above analysis it appears to be not entirely similar to that simple bitter; its warm aromatic part being the prevailing principle, in virtue of which, its spirituous extract (the most elegant

MATERIA MEDICA.

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elegant preparation of it) is made an ingredient in the cordial confection of the London pharmacopœia.

ZIBETHUM.

ZIBETHUM *Pb. Ed.* *Civetta.* *CIVET* : a soft unctuous odoriferous substance, about the consistence of honey or butter; of a whitish, yellowish, or brownish colour, and sometimes blackish; brought from the Brazils, the coast of Guinea, and the East Indies; found in certain bags situated in the lower part of the belly of an animal of the cat kind. The bag has an aperture externally, by which the civet is shed or extracted.

THIS substance has a very fragrant smell, so strong as, when undiluted, to be disagreeable; and an unctuous subacid taste. It is used chiefly in perfumes, rarely or never for medicinal purposes, though the singular effects which musk has been lately found to produce may serve as an inducement to the trial. It unites with oils, both expressed and distilled, and with animal fats: in watery or spirituous liquors it does not dissolve, but both menstrua may be strongly impregnated with its odoriferous matter, water by distillation, and rectified spirit by digestion: by trituration with mucilages, it becomes soluble in water.

ZINCUM.

ZINC or *tutenag*: a bluish white metal; crackling, in being bent, like tin, and quickly breaking; about seven times specifically heavier than water; beginning to melt in a moderate red heat, and very slowly calcining on a continuance of the fire; in a moderate white heat flowing thin, burning, fulgurating, with a bright deep green or bluish green flame, and subliming into light white flowers, which concrete about the upper part of the vessel, or on the bodies adjacent, into thin crusts, or soft loose filaments like down or cobwebs. In its metallic form, and in that of a calx or flowers, it dissolves readily in all acids, and precipitates from them almost all the other metallic bodies.

The calces or flowers of zinc are difficultly revived into their metallic form. Though perfectly fixed in the fire so long as they continue in a state of calx; yet, as calces in general require for their revival a greater heat than that in which the metal itself melts, and as a full melting heat is the greatest that zinc can support; the instant they are
revived,

revived, they burn and calcine again in open vessels, and escape through the pores of close ones. Hence some ores and preparations of this metal have been long kept in the shops, and even chemically examined, without being discovered to be such. The revival may be effected, by using compact vessels, of such a structure, that the zinc, in proportion as it is restored to its metallic form by the charcoal powder or other inflammable additions commonly made use of for those purposes, may be suffered to sublime or run off from the heat without being exposed to the outward air; or by adding some other metallic substance to detain it, as copper, which is thus changed into brass.

This metal has not yet been received into the shops in its own form; though it should seem to deserve a place, as affording preparations superior to the ores or productions of it now made use of. A white vitriol made from pure zinc, by dissolution in the diluted vitriolic acid and crystallization, is doubtless preferable for medicinal use to the common impure white vitriol; and the white flowers, into which it is changed by deflagration, to the very impure calamine and tutty. Moderately pure white flowers, sublimed from it in the brass or other furnaces, wherein zinc or its ores are melted with other metals, were formerly kept in the shops, and distinguished by the names of *pompholix* and *nihil album*.

Z I N G I B E R.

Z I N G I B E R Ph. Lond. & C. B. *Zingiberi* Ph. Ed.

GINGER: the root of a reed-like plant, growing spontaneously in the East Indies and cultivated in some parts of the West; brought over in knotty branched flattish pieces, freed from the outer bark, of a pale colour and fibrous texture: that which is least fibrous is accounted the best.

THIS warm aromatic root, of common use as a spice in flatulent colics, &c. appears to be much less liable to heat the constitution than might be expected from the penetrating heat and pungency of its taste, and from the fixedness of its active principles. It gives out the whole of its virtue to rectified spirit, and great part of it to water, tinging the former of a deep, the latter of a pale yellow colour: the spirituous tincture, inspissated, yields a fiery extract, smelling moderately of the ginger:

ginger: the watery infusion, boiled down to a thick consistence, dissolved afresh in a large quantity of water and strongly boiled down again, retains still the heat and pungency of the root, though little or nothing of its smell: there does not seem to be any of the common spices whose pungency is of so fixed a kind. In the shops is kept a syrup made from an infusion of three * or four † ounces of the root in three pints of boiling water, which is agreeably impregnated with its warmth and flavour; and the candied ginger, brought from abroad, which is likewise moderately aromatic.

Syr. zingib.
* *Pb. Edinb.*
† *Pb. Lond.*

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The END.

E R R A T A.

Page 14, line 3, Native vegetable acids do not rise in distillation, &c. — This does not appear to obtain universally: there is one instance to the contrary in page 283, but I do not know of any other.

P. 31, l. 10, for large read larger.

P. 42, l. 16, for fifteen read thirty.

P. 46, l. 21, for speedily disengaged by acids, read is not disengaged by acids, though speedily by alkalies.

P. 73, l. 4, &c.—The sense, here imperfectly expressed, is, that snow-water, exposed to the air and sun in summer, becomes putrid, though in close-stopt bottles it continues perfectly sweet for many years; and that distilled water suffers no change in either circumstance.

P. 106, l. 4 from the bottom, for cathartic read catarrhus.

P. 130, l. 9, for Peru read Tolu.

P. 166, l. 16, for nitre but not acids read both nitre and acids but not alkalies.

P. 194, l. 28, after lignum aloes add and yellow Saunders.

P. 273, l. 12, for property read properties.

P. 298, l. 22, Tragacanth the strongest of the gums—It is not the strongest in point of tenacity or adhesiveness, though it imbibes and thickens the greatest quantity of water.

P. 306, l. 9, for mixture read matrix.

P. 319, l. 4 from the bottom, dele bluish; for the juice is green as first expressed.

P. 377, l. 8 from the bottom, for the one end read the end one or the extreme one.

P. 378, l. 12. for presses read impresses.

P. 455, l. 6 from the bottom, for flesh read fleshy.

